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# ECONOMICS

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## BRIEFER COURSE

BY

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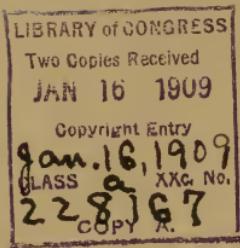


NEW YORK

HENRY HOLT AND COMPANY

1909

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THE QUINN & BODEN CO. PRESS  
RAHWAY, N. J.

## PREFACE

GROWING appreciation of the importance of economics is causing the subject to be introduced into a number of technical and professional schools. As a rule the course is shorter in such schools than the usual college course, and a briefer text-book is required. The following treatise has been prepared with special reference to this need. Although based on the author's larger *Introduction to Economics*, it is in essential respects an independent work. Not only are several topics there discussed entirely omitted, but the treatment of others is simplified as well as condensed. In general the qualities chiefly aimed at in the first, or theoretical, half of the book have been clearness and brevity, and those sought in the second, or practical, half, adequacy and up-to-dateness. The treatise is thus intended primarily for teachers who wish to give only that amount of attention to economic theory that is essential to the intelligent discussion of practical economic problems. Since this is the normal position of the busy man of affairs, it is possible that the book may be of interest to some readers outside the class-room.

The bibliographical note at the end of Chapter I. and the references for collateral reading appended to all of the chapters except the last are intended for the guidance of general readers. Asterisks (\*) are used to designate the titles which are especially recommended.

PETERBORO, NEW HAMPSHIRE,  
November 2, 1908.



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# **ECONOMICS**



# ECONOMICS

## CHAPTER I

### PRELIMINARY SURVEY OF THE FIELD OF ECONOMICS

1. **Definition of Economics.**—*Economics, or political economy, is the social science which treats of that portion of human activity which is concerned with earning a living.* It deals, on the one hand, with man's wants and, on the other, with the goods (*i. e.*, the commodities and services) upon which the gratification of his wants depends. It analyzes wants, classifies goods with reference to them and considers all of the circumstances which affect the production and distribution, or sharing, of goods among the individuals who compose society. In discussing production and distribution economists treat the same problems that engage the attention of business men, but from a social rather than an individual point of view. It is to emphasize this distinction that economics is styled a "social science." A definition easy to remember is that *economics is the social science of business.*

2. **Relation of Economics to Other Social Sciences.**—Closely related to economics are the other social sciences—sociology, politics, law and history. By some writers sociology is made to include all of the social sciences, not excepting economics. Others define it as the science which treats of the beginnings of society and of the first principles of social organization. Still a third group understands the term to include problems connected with soci-

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ety's treatment of its dependent classes. Whichever of these definitions be accepted, the relation of sociology to economics need cause no confusion. The latter has to do primarily with contemporary conditions and with the relations between independent, self-supporting individuals and families and the goods upon which their well-being depends.

Politics treats of the political organization of society, and law is the aggregate of rules and regulations through which formal expression is given to the social will. Neither is likely to be mistaken for economics, although both influence largely the business institutions and practices with which economics is concerned. The political organization determines what classes shall have a dominant influence in choosing the laws that are to be passed and enforced, and laws themselves establish standards to which all must conform. The solution of most of the practical economic problems which are discussed in later sections of this book will be found to hinge upon the repeal of unwise laws or the enactment of wise ones.

History, in the broadest sense, is the narrative of past events. To the economist, economic or industrial history, the narrative of past events touching relations between men and goods, is of special significance. Without some knowledge of economic history no clear understanding of contemporary economic phenomena is possible. This is because in the field of economic as of other social phenomena the present has grown out of the past and only in the light of the past are present practices and institutions comprehensible.

**3. The Motives to Business Activity.**—In the definition, "economics is the social science of business," the last word is used in its broadest sense. It denotes activity entered into, not primarily for its own sake, but for the sake of some indirect return. Business is thus, in a sense, "work" as distinguished from "play," but must not be

thought of as necessarily disagreeable. It includes *activity*, that is, pleasurable mental or physical exercise, as well as *effort*, that is, exercise which involves some element of discomfort or pain. The rational man tries to arrange his work so that it will involve as little effort as possible.

The motives to business activity are too familiar to require extended analysis. Men are so constituted that their happiness, their existence even, depends upon their having command over certain material commodities and personal services. They must have food, shelter and clothing in order to live. Such things satisfy their primary, physical wants. Next come the more complex wants which distinguish the civilized man from the savage. Men now desire tools, machines, conveniences for travel and social intercourse and countless other things which contribute to the comfort of life. The chief object of business activity is to create or obtain these material and immaterial conditions to well-being. Primitive men went about the task directly. They killed game for food, erected their own huts and made their own garments from the skins of animals. Their civilized brothers have learned that business activity is more fruitful when it proceeds by roundabout and co-operative methods. They spend much of their time in fashioning tools, machines and other aids to production, and concentrate their attention on special tasks, relying on others to provide most of the things which they require. It is this indirectness of modern business activity which gives rise to many of the most important problems of economics.

Other motives to business activity (besides the desire to obtain control over commodities and services as a means to gratifying wants) are interest in work for its own sake; desire for the social distinction which attaches to large command over commodities and services; love of power, and desire to serve the community. The strength of these

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supplementary motives varies with different men and in different occupations. The first is particularly prominent in connection with the work of artists, artisans and professional men, but it is by no means confined to such pursuits. In fact it is not far from the truth to say that business success in nearly all occupations is in direct proportion to the interest the worker takes in his work for its own sake. Desire for social distinction and love of power have little influence on the attitude of the average man towards the working life, but in the minds of those who rise to the highest positions in the business world these become dominant motives. It is only by reference to them that the laborious days of America's hard-working millionaires can be understood. Finally, the desire to render social service is already a strong motive with many persons and promises to become stronger as political and other opportunities to serve the community on terms that self-respecting men can accept are multiplied. There can be little doubt that the present trend of development in progressive countries is towards the exaltation of these supplementary motives at the expense of what may be called the mere bread-and-butter attitude towards the working life.

**4. Characteristics of the Business, or "Economic," Man.**—A first step in the study of business is a clear description of the business man. As found to-day in the United States and other countries in the same stage of industrial development, he has four traits which show themselves more or less clearly in all of his acts:

(1) The business man pursues his own interest in his business dealings and assumes that others will do the same. This does not mean that he is steeped in selfishness, but simply that from his point of view "business is business," not play nor philanthropy, and that he prefers to keep his getting separate and distinct from his giving.

(2) In judging of his own interest the business man thinks of himself not as an isolated individual, but as a

member of different social groups, of which the family is by far the most important. He works not for himself alone, but for his family, his church, his union, or club, and his country. In different relations and at different times he identifies his interest with the interests of these organizations. For his family the business man will sacrifice as much or more than he will for himself alone.

(3) He desires to be financially independent. His ambition is to stand on his own feet, to make his own way and, when he accepts assistance, to give an adequate return for it.

(4) He is controlled in his business dealings by the code of business morality that pertains to his class. As there is "honor even among thieves," so there are special standards that are accepted and lived up to by different business classes. These standards are not as high as would be desirable, but they are higher than current criticisms of business morality might lead one to think. To be maintained, however, in communities where class barriers are constantly giving way, such standards have often to be reinforced by legal enactments.

These four characteristics of the business, or economic, man are readily explained by reference to the evolutionary process which has brought industrial society to its present stage of development. Self-interest as a dominant motive, for example, is the direct fruit of that struggle for existence which is still in progress and which makes self-preservation the first law of nature to every organic species. In the case of men, religious and other influences have tempered self-seeking with consideration for others, but it still plays the chief rôle in shaping human conduct.

5. Definitions of Common Terms.—The material commodities and personal services which gratify human wants are conveniently designated as *goods*, while the capacity or quality in goods which gratifies wants is called *utility*. As used in economics these terms are stripped of the moral

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implication that attaches to them in ordinary speech. Thus anything that gratifies a want has utility and is a good, whether it be the whisky of the trader or the hymn-book of the missionary.

Not all goods figure in business transactions. Such things as sunlight, air and water are usually *free goods* for which no one expects or receives a return. They are supplied by nature in such abundance that there is enough of them for all and to spare. In general it may be said that *whenever the spontaneous supply of any good exceeds the desire for it, units of that good will be free.*

In contrast with free goods is that vastly larger class of commodities whose supplies are limited in comparison with the desire for them and which are therefore objects of economy. These are appropriately named *economic goods* and taken together constitute the *wealth* to secure which men engage in business. The characteristic of economic goods is that they have *value* as well as utility.

The term, value, is used in two distinct, although closely related, senses in economics, and this has given rise to a great deal of confusion. It may designate *the importance which a person ascribes to a unit of a good as a condition to the gratification of his wants.* This is value in the subjective sense and may be distinguished as *value in use.* In the phrases, "the value of a loaf of bread to a starving man is beyond calculation" and "no one knows the value of an object until he has to do without it," values in use are meant. The other sense of the term is that of *value in exchange.* When a bushel of wheat is said to be twice as valuable as a bushel of corn, it is the exchange ratio between the two that is referred to. Value in exchange is thus *the power of a good to command other goods in exchange for itself.* In future in this book the word value by itself will be used in the sense of value in exchange.

The three conceptions, utility, value in use and value in exchange, are analyzed more fully in the chapter on



**Value and Price.** At this point it will suffice to suggest very briefly the relations which they bear to one another. Free goods have no value in use, that is, single units of such goods have no importance as conditions to the gratification of wants. Thus a cubic foot of air in the room in which the reader sits has no value, although it has utility, because it would not be missed if withdrawn. Other air would rush in from adjoining rooms and from outdoors and the equilibrium of atmospheric pressure would be almost immediately re-established. If the room were made air-tight, however, and one cubic foot of air after another were withdrawn, the situation would be quite changed. Now, instead of being indifferent, each cubic foot of air would be of importance; and as one cubic foot after another was taken away this importance would steadily increase. As the air became thinner, discomfort, strangulation and finally death would ensue, unless the process of exhaustion could be checked. The reader would in this case ascribe high value to air, holding it as precious when at the last extremity as life itself. As this illustration indicates, value in use is variable and measures the extent of man's dependence *under the given conditions of supply* upon a unit of the good being valued.

The relation between value in use and value in exchange is somewhat more complex. At the outset it is obvious that a good must have value in use to some one as a condition to its having value in exchange. Such value in use may be immediate, as in the case of goods finished and ready for consumption, or remote, as in the case of raw materials. Unless it is present there can be no value in exchange for the simple reason that no one will give anything for something which no one considers of any importance. In the second place a good which has value in use to two or more persons so situated that they may have business dealings with one another will normally have value in exchange. This may be inferred from the definition of value in use,

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since a good which is of importance to the well-being of two or more persons can hardly fail to be worth something in other goods. Since value in exchange never arises in the absence of value in use, and, on the other hand, normally results when value in use is present, there must be a close causal connection between the two. The explanation of this connection must be deferred to Chapter III.

Closely related to value in exchange is another familiar concept, that of *price*. As ordinarily used in business conversation *price designates exchange value measured in terms of money*, money being the universal medium of exchange. In the United States prices are expressed in dollars and cents, and the dollar is maintained, by means of regulations described in Chapter XIV., as the invariable exchange equivalent of 23.22 grains of pure gold. It follows that current American prices indicate the quantities of the commodity *gold*, for which units of the commodities priced would exchange on the given date in the given market.

**6. Production and Consumption.**—The limitation on the supplies of goods which makes them economic, or valuable, may be due to the fact that they are unique, that they are controlled by a monopoly or simply that business activity is required to bring them into existence. Examples of absolute limitation are afforded by old coins or stamps, pictures by deceased artists, etc. Such goods often acquire with age a value out of all proportion to the esteem in which they were originally held. Monopolized goods are equally familiar. Such are patented goods and those produced by means of secret processes. Most common of all are goods whose supplies are limited simply because business activity is needed to create them.

*The creation of economic goods, or, more accurately, of the utilities embodied in them, is called production.* It is the chief purpose of business activity. Contrasted with it is *consumption, the utilization of goods as a means to the*

*gratification of wants.* Consumption, as already suggested, furnishes the principal motive for business activity. The utilization of goods as means to gratification must, for the sake of clearness, be sharply contrasted with *productive utilization*, as for example of fuel or raw materials in manufacturing. The latter, although sometimes described by the misleading phrase "productive consumption," is really production itself. It has nothing in common with consumption except that it too usually involves the destruction of the utilities in the goods utilized.

To the extent that business activity entails effort it is obvious why its products must normally have value. If they did not, business men would be under no inducement to produce them. But business is often merely a form of pleasurable activity. Why, it may be asked, are not goods which it is a pleasure to create, such as the products of talented artists, multiplied until they become free like the superabundant gifts of nature? The mere statement of this question suggests the answer. In the first place artistic talent is rare in comparison with the demand for artistic products. Even if all artists of first-rate ability were so constituted that they could derive unalloyed pleasure from their work during ten hours out of every twenty-four, there would still be a scarcity of artistic products which would prevent them from being free goods. But few if any artists are able to work even ten hours a day without incurring a sacrifice, and this is the second reason. Production and consumption are usually mutually exclusive and each takes time. It follows that the hours spent, no matter how pleasantly, in production, are hours subtracted from the consuming period. So long as the hours devoted to business activity afford more pleasure than would the same hours devoted to leisurely consumption, the former involves no sacrifice. But as work is continued through the day it loses in interest, while leisurely consumption gains in attraction. In consequence after a few

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hours' toil the balance is usually turned and work, even though still pleasurable, ceases to be more pleasurable than consumption. In this situation to continue to produce is to make a sacrifice. As the economic man declines to put forth effort that is not rewarded in valuable products, so he declines to incur sacrifice that is not similarly recompensed. This fact limits the supplies of all goods except those which nature furnishes in superabundance, and is one of the fundamental causes of value.

It might be thought that improvements in methods of production would increase the number of free goods, but experience seems to show that wants multiply even more rapidly than processes improve and that the number of free goods is growing smaller rather than larger as time goes on. Even pure water and air, to people who live in cities, are now among the economic goods which command a price.

The sum of the efforts and sacrifices that are involved in production constitute what is known in economics as the *cost of production*. They are the advances which must be recompensed in the value of the product, if actual loss in well-being is to be avoided. Under favorable circumstances such cost involves only sacrifices, that is, the doing of things that are less pleasurable than other things that might be done, but free from any element of pain. The tendency of evolution appears clearly to be towards bringing all costs to this level. As the same productive tasks are performed generation after generation human organisms become adapted to them so that children do with ease what their fathers could do only with difficulty and effort. If methods of production were not constantly changing so that muscles and nerves are required to adapt themselves to ever new situations a stage might soon be reached in which all production would be painless. This is one of the goals towards which economic progress should consciously be directed.

To be contrasted with the costs of production, which are psychological or subjective, are the *expenses of production*, that is, the advances made for materials, labor and all the other things which co-operate in bringing about productive results. The latter are objective and may be expressed as sums of money comparable with the prices received for products.

7. **Work and Pay.**—Until the last one hundred and fifty years it was customary for most families to produce for themselves most of the things which they required. Under such conditions the relation between work and pay was very simple. Each family got all or a portion of the identical things which it produced and was made to feel keenly its dependence upon its own exertions and upon favoring natural conditions. The introduction of machinery and the era of specialization to which it has given rise have changed this situation. At present most families produce but little for their own direct consumption. Those who dwell in cities and towns, and even those who dwell in the country, produce for the most part for the market and rely upon the market for the things which they require. Nor is this the only complication. The great majority in modern communities produce as hired workmen and have no direct share in what they produce nor knowledge of the conditions under which the product is marketed. They receive as their compensation wages or salaries agreed upon beforehand and shift to their employers responsibility for the success of the business enterprises in which they are engaged. Under these conditions the problem of work and pay has become one of the most difficult in the whole field of economics.

Foremost among the world's workers are the so-called *captains of industry*, or *entrepreneurs*, who direct industrial processes. Their remuneration comes to them as *profits* or balances left over from the sale of products after all of the expenses of production have been paid. Below

them are the lieutenants of industry, the salaried managers and bosses, and at the bottom the rank and file of the industrial army which is paid its remuneration in the form of monthly, weekly or daily wages. A complete explanation of wages involves a study of the causes that determine the prices of the products of industry out of which money wages ultimately come, of the circumstances which determine labor's share of these prices and finally of the terms on which money wages are exchanged for the goods which laborers consume, since the latter constitute the *real wages* of labor. Each one of these subjects of inquiry represents an obstacle which under present conditions intrudes itself between the product of labor and the pay of labor and causes wage-earners to feel themselves dependent for their remuneration upon the good-will of employers even more than upon the quantity and quality of their work or the favorableness of natural conditions.

Under the manorial system, which prevailed in Europe in the Middle Ages, the most important influence fixing the pay of farm laborers was the custom which determined how large an allotment of land each should receive and what services he should render in exchange for it. In later centuries custom was supplemented by law and judicial regulation in the determination of this important matter. Thus in England not only were laws passed fixing the rate of pay for particular kinds of work, but the general rule was established that justices of the peace should have power to regulate wages. Neither custom nor law now plays much part in the fixing of wages. Their determination is left to free bargaining in all Western countries, and it is difficult for most people even to entertain the idea of a different system. Of no country is this more true than of the United States. American courts have over and over again declared that the rights to liberty and to property guaranteed in all of the State constitutions embrace

the right of employer and employee freely to contract or bargain, and that laws attempting to abrogate freedom of contract and to put in its place custom or legal regulation as the determinants of wages are unconstitutional. As is pointed out in the chapter on The Legal Regulation of Labor, there is reason to think that judges have gone too far, at times, in their application of this principle, but its fundamental importance to the present industrial organization is beyond question.

**8. Property and its Earnings.**—Next to the right freely to contract, the right to property is the one most jealously guarded by modern governments. The significant aspect of the right to property in this connection is the right to use it as a means of securing income. English and American law distinguishes between real and personal property. Economics, in rough conformity to this classification, distinguishes between land and other gifts of nature, and *capital goods*, that is, *products of past industry used in the present as aids to further production*. Both forms of property afford incomes to their possessors, that from land being known in economics as *rent* and that from capital goods as *interest*.

The problem of property and its earnings is quite as complicated as that of work and pay. In it are involved not merely economic, but moral relations of the profoundest significance. The economist must not merely explain the reasons for the earnings assigned to property and the circumstances that determine their amount, but also supply the basis for a wise decision as to the social utility of the system which permits these earnings to go to individual property owners. It is customary in treatises on economics to group together all of the problems connected with work and pay and property and its earnings into one great department of the study known as *Distribution*. This has to do with the causes which determine the division of economic goods among the individuals in industrial so-

ciety. It is the concluding stage in the process of production, and a necessary preliminary to consumption.

**9. The Methods of Economics.**—The methods of economics are the same as those of other sciences, but the complexity of the phenomena treated makes necessary great caution in the use of these methods. The method upon which most reliance was placed by the older English economists was the deductive, or *a priori*. It consists, as treatises on logic explain, in reasoning from general propositions to their particular applications. In economics many of the most important of the general propositions, or premises, used are borrowed from other sciences (*e. g.*, psychology, law), and this makes some knowledge of these subjects an indispensable part of the mental equipment of the economist. When a premise is only roughly accurate, as is for example the assumption that wages are determined in the United States by free and equal bargaining between employers and employees in which each pursues his own interest with the same persistency and the same knowledge of the situation as the other, it goes without saying that conclusions will be only roughly accurate also, and will need to be tested, if not corrected, by experience. Since rough accuracy is all that can be claimed for most of the assumptions used in economics, the student must be particularly careful to weigh the conclusions reached at each stage of a long deductive argument, before he attempts to give them practical application.

The inductive, or *a posteriori*, method is just the reverse of the deductive, since it consists in summing up a number of particular propositions in a general conclusion. By means of induction the detailed observations of like phenomena, which result from the field work of science, are grouped together in general statements. The latter then serve as the premises for deduction, which carries the conclusion beyond the range of direct observation. To be sure of the accuracy of the result the scientist must appeal

to observation again as a means of verification. The progress of science thus begins and ends with observation.

Where the phenomena to be observed are as numerous as they are in economics, induction may take the form of *statistics*. Individual instances of the same phenomenon are counted and the result given in numerical form. By means of statistics a quantitative value is given to the conclusions of induction which justifies greater confidence in them. The statistical method is applicable as yet to only the simpler problems of the science, but such progress has recently been made in the collection and tabulation of statistics that there is every reason to anticipate results of steadily increasing importance from its use.

**10. Economic Laws.**—Much confusion exists in regard to the nature of the laws of economics. Some writers declaim against governmental policies which they do not like on the ground that they are violations of economic law. Others are equally vociferous in affirming that economic law cannot be changed by any act of the legislature. Neither statement, as it is ordinarily understood, is true of economic law in the scientific sense.

A scientific law is a statement of the relation that is believed to obtain among phenomena. This relation may be one of coexistence or of sequence. To illustrate, it is a law of economics that the prices at which identical units of any good are sold in markets between which such units may pass freely without any deterioration in quality or loss in quantity, will not for any length of time differ by more than the expense of carriage between such markets. This is a law of coexistence which is proved by deductive and confirmed by inductive reasoning. Again, it is a law of economics that an increase in the supply of the units of any good offered for sale in any market tends to lower the price that can be secured for it. This is a law of sequence. In both cases, it should be noted, there is implied or expressed the absence of disturbing factors. Free commun-

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cation between the markets must be maintained or the first law ceases to hold good. The second law describes a tendency. The increased supply may not actually cause a fall in price because it may be offset or more than offset by an increase in demand. In the statement of all economic laws it is taken for granted that other things remain the same so that the influences upon which the operation of the law depends will have an opportunity to work out their normal effects.

To be contrasted with law in the scientific sense, are law in the moral and law in the juristic sense. Moral law states not what is but what ought to be. It is in this sense often that the term economic law is used when particular policies are said to violate it. It needs no argument to prove that such a use of the term has no place in a scientific treatise. Law in the juristic sense has already been defined (Section 2) and is not likely to cause confusion.

The statement that economic law cannot be changed by legislation is literally true. It is equally true, however, that economic conditions may be changed by legislation and that this may render entirely inapplicable economic laws that were previously significant. The development of the legal system of each industrial society makes necessary a continuous recasting of the laws of economics if that science is to remain in vital relation with actual business conditions. Old premises must be discarded and new premises in harmony with the new situation must be formulated. For this reason the implication of the statement "economic law cannot be changed by legislation," that is, that legislation cannot give a new direction to economic forces and in that way modify old relations among economic phenomena, is quite misleading.

**II. Outline of Book and Conclusion.**—In the following chapters the different divisions of economics are treated in the order suggested in the preceding survey. The subject of consumption is first discussed as an introduction to a

fuller treatment of value and price. Then follow chapters on production and distribution, in which the leading principles of the subject are explained. The work concludes with chapters on money and on problems of the day falling within the scope of economics. In the closing chapter, on Economic Progress, suggestions scattered through the book are brought together into a systematic program of economic reform.

As a conclusion to this preliminary survey a word of caution may not be out of place. Economics is an intensely human study. Dealing as it does with relations upon which the well-being of individuals and even of whole social classes depends, it makes constant appeals to the sympathies and prejudices. This fact serves to make it interesting, but it has the disadvantage of appealing to the emotions, when emotion can only serve to bias the judgment, as well as when it may help to right wrongs and to promote progress. In studying the principles of economics, passion, except the passion for truth, is out of place. What is needed is the same calm judgment that has done so much to advance the natural sciences. The student should constantly have in mind the thought that his primary task is to explain existing business relations. He must understand how they came to be, and the forces that perpetuate them. He must detect the laws which govern them and try to see them in their proper perspective as features in a great evolutionary process. Only when he has fulfilled this purely scientific part of his task is he equipped to take up the discussion of practical problems and to throw his weight on this side or that in accordance with the dictates of his trained judgment. There need be no antagonism between this pursuit of truth and the zeal of the good citizen or the ardor of the social reformer. These, too, need to be fostered, but the sounder the economic judgment which directs them, the larger the contribution they can make toward true progress. What is to be avoided is mistak-

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ing the suggestions of sympathy or of class prejudice for the dictates of reason. And this can be done only by developing the scientific temper to serve, not as a substitute for, but as a guide to the social sympathies.

### REFERENCES FOR COLLATERAL READING

\* *Clark*, Essentials of Economic Theory, Chap. I.; \* *Seligman*, Principles of Economics, Part I.; \* *Marshall*, Principles of Economics, Books I. and II.; *Ely*, Outlines of Economics, Chap. X., Book I.; Chap. I., Part I., Book II.; \* *Gide*, Political Economy, Book I.; *Keynes*, The Scope and Method of Economics; *Palgrave*, Dictionary of Political Economy, articles entitled "Economic Science," "Method of Political Economy," etc.

### BIBLIOGRAPHICAL NOTE

Because of the diversity of views which it presents, the literature of economics is likely to prove confusing to one who takes up the study for the first time. In order to see the relation among different writers and different schools, the beginner will do well, before he ventures far into the subject, to read a brief history of economic theory.

Ingram's *History of Political Economy* and Price's *Political Economy in England* may be recommended for this purpose. Cannan's *History of Theories of Production and Distribution* may then be read in connection with the works which it discusses. It will be found helpful to learn something about each author before reading what he has to say on any particular topic, and to this end dictionaries of political economy should be used. The standard English work is Palgrave's *Dictionary of Political Economy*. Readers of German should consult also Conrad's admirable *Handwörterbuch der Staatswissenschaften*, while readers of French will find Say's *Dictionnaire d'Économie Politique* helpful.

The principal writers who have contributed to the literature of economics available in English may conveniently be distinguished into four groups:

I. "The English classical school" is the term applied to Adam Smith (*The Wealth of Nations*), Malthus (*Essay on Population*), Ricardo (*Principles of Political Economy and Taxation*) and John Stuart Mill (*Principles of Political Economy*), and their followers. Rae's *Life of Adam Smith*, Bonar's *Malthus and His Work* and J. S. Mill's *Autobiography* may be read with profit in connection with the works of these authors.

II. A reaction against the doctrines and method of the classical school began about the middle of the last century, and to it the term "historical school" is usually applied. The chief representatives of this school in Great Britain were Cliffe Leslie (*Essays in Political and Moral Philosophy*) and Toynbee (*The Industrial Revolution*).

The school has had its greatest development in Germany, where it is now represented by Gustav Schmoller (*The Mercantile System*) at the University of Berlin, Karl Bücher (*Industrial Evolution*) at the University of Leipsic and other distinguished economists.

III. A reaction against the classical school in quite a different direction is usually spoken of as the "Austrian school" because of the large part which the Austrian economists Carl Menger, Böhm-Bawerk and Wieser have played in its progress. In Great Britain it has been represented by Jevons (*Theory of Political Economy; Money and the Mechanism of Exchange*) and Smart (*Introduction to the Theory of Value; Distribution of Income*). The important works of Böhm-Bawerk (*Capital and Interest; The Positive Theory of Capital*) and of Wieser (*Natural Value*) have been translated into English.

IV. Few contemporary British or American writers would care to be classed rigidly with either of the three schools referred to. For that reason it seems best to treat them as a separate group. Prominent among British economists are Marshall (*Principles of Economics; Economics of Industry*), Edgeworth (articles applying the mathematical method to economic problems in the *British Economic Journal*), Nicholson (*Principles of Political Economy; Money and Monetary Problems*), Cannan (*Theories of Production and Distribution*), Bonar (*Philosophy and Political Economy; Malthus and His Work*), Rae (*Life of Adam Smith; Contemporary Socialism; Eight Hours for Work*), Bastable (*Public Finance; The Theory of International Trade*) and Hobson (*The Evolution of Modern Capitalism*).

Among American economists should be mentioned the late General Walker (*Political Economy; The Wages Question; Money; International Bimetallism*) and the late Professor Dunbar (*Theory and History of Banking*). Prominent among contemporary writers are Sumner (*History of American Currency; Lectures on the History of Protectionism in the United States*), Clark (*The Philosophy of Wealth; The Distribution of Wealth; The Essentials of Economic Theory*), Patten (*Consumption; The Theory of Dynamic Economics; The New Basis of Civilization*), Adams (*Relation of the State to Industrial Action; Public Debts; The Science of Finance*), Hadley (*Railroad Transportation; Economics*), Ely (*Problems of To-day; Outlines of Economics; Monopolies and Trusts*), Seligman (*Essays in Taxation; The Incidence of Taxation; The Economic Interpretation of History; Principles of Economics*), Taussig (*Tariff History of the United States; Wages and Capital*), and Jenks (*The Trust Problem*).

Although by no means exhaustive the above list of authors and titles will serve to give some idea of the scope of the general literature of economics. It may be supplemented by the excellent bibliographies contained in the following works: Bowker and Iles, *The Reader's Guide in Economic, Social and Political Science*; Cossa, *Introduction to the Study of Political Economy*; Bullock, *Introduction to the Study of Economics*; Seligman, *Principles of Economics*.

Much of the contemporary literature of economics must be sought in the monographic series published by the American Economic Association and by the leading universities. The principal periodicals devoted in whole or in part to economics are: *The Quarterly Journal of Economics* (Harvard University, 1886-1908, 22 vols.); *Political*

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*Science Quarterly* (Columbia University, 1886-1908, 23 vols.); *Annals of the American Academy of Political and Social Science* (Philadelphia, 1890-1908, 32 vols.); *The Yale Review* (Yale University, 1892-1908, 16 vols.); *The Journal of Political Economy* (Chicago University, 1892-1908, 16 vols.); *The British Economic Journal* (British Economic Association, London, 1891-1908, 18 vols.); *The Economic Review* (London, 1891-1908, 18 vols.).

## CHAPTER II

### THE CONSUMPTION OF WEALTH

**12. Characteristics of Human Wants.**—As one of the main divisions of economics, consumption treats of the relations between wants and the means to their gratification, goods. The characteristics of wants first demand attention.

It is a familiar fact of human experience that wants are indefinitely numerous. Every day, in the consciousness of every normal person, many wants for commodities and services are felt which must of necessity go ungratified. Upon this simple fact is based the law that *the consuming power of a community is indefinitely great*.

A second familiar characteristic of wants is that they are of very different degrees of intensity. This is realized as soon as one tries to arrange all of the wants of which he is conscious in a scale according to their importance. Such an endeavor reveals also the difficulty of measuring wants and the complexity of those which direct daily life. Corresponding to every want that comes within the scope of economics, is a utility or combination of utilities capable of gratifying it. The intensities of wants determine degrees of utility and thus, as is shown later, have great influence in fixing the values of the economic goods in which utilities are embodied.

**13. The Law of Diminishing Utility.**—Variable as they are in intensity, all wants are subject to a law of gradual diminution and final satiety as consumption is continued. This may be illustrated by reference to food. A healthy American boy, given a breakfast of unlimited

buckwheat cakes, attacks the first plateful with great avidity. His eagerness is reduced by each additional plateful, until his hunger is satisfied and he must reluctantly confess that he has had enough. As an individual's capacity to enjoy food is limited, so is his capacity to enjoy clothes. A normal person feels intensely the need of one respectable suit of clothes, pair of shoes, etc. A second suit is less indispensable, but gratifies a lively desire. Additional suits gratify wants of steadily diminishing intensities, and in time the point of satiety is reached even by the most fastidious dandy. Less material wants obey the same law. Eyes tire of beautiful pictures or beautiful scenes. Ears are deadened in time by even the sweetest music. In short, each receptive faculty is subject to exhaustion and requires time to recuperate. Upon this psychological principle is based an economic law of considerable importance, that of *diminishing utility*. We may formulate it as follows: *The utilities of additional units of any good to any consumer diminish normally as his supply of units of that good increases.* This law assumes, of course, that no change takes place in the character of the consumer as his supply is being increased.

**14. Present vs. Future Goods.**—The normal man lives in the present and will make greater sacrifices to insure the gratification of present than of future wants. Though very general, this characteristic of wants is more marked for some social classes than for others. It would not be far from the truth to say that young children and savages live entirely in the present; that the manual laboring classes, especially in climates where the winters are mild, look only a few months or a few years ahead in their economic calculations; that the great class of artisans and merchants plan with reference to their own lives and the lives of their children; and that the founders of large family fortunes include generations yet unborn in their view. It is in such psychological differences as these that

economists discover a chief reason for the persistence of inequalities of fortune, even in new countries where the same opportunities for advancement are open to all.

This fourth characteristic of wants is the basis of a second law in regard to utility which has reference to the *time* of consumption rather than to the *quantity* to be consumed. If goods available for present consumption be called *present goods*, and those to be available in the future—which may exist in the present as unfinished materials—*future goods*, the law may be formulated as follows: *The utility of future goods is less to the normal consumer than the utility of present goods of like kind and quality by an amount varying directly with the degree of futurity.*

15. **The Law of Demand.**—Closely related to the law of diminishing utility is the law of demand. Since successive units of any good gratify less and less intense wants, the desire for successive units diminishes. *Demand*, as the term is used in economics, denotes *effective desire*, that is, *desire coupled with ability to pay the current price for the desired object*. The general law of demand is that it varies directly with changes in the intensity of wants and inversely with changes in the prices that must be paid for goods. To illustrate, the development of a new taste increases a person's demand for the good capable of gratifying that taste. More of that good will be purchased even though its price remain as before. On the other hand, even though a person's taste be unchanged he will be inclined to purchase more of a good whose price is reduced.

When demand increases or decreases readily in response to price changes it is said to be *elastic*. This is the case with the demand for goods which are on the border line between necessities and comforts. A slight fall in the price of such goods brings them within the reach of many consumers who before could not afford them. At the

other extreme are the very cheap necessities used by all classes, such as potatoes, salt, sugar, etc., in the United States. A fall in the price of such goods will not increase the demand for them materially because everyone is already consuming them nearly down to the point of satiety. Where the conditions of production are variable, the costs of transportation prohibitive of shipment to distant markets and the product itself perishable, it may, and often does, happen that the supply of goods for which the demand is inelastic exceeds the demand even at the lowest prices. At such times such goods become a drug in the market and anyone may have them who will go to the trouble of carrying them away. This situation is not unusual in country districts in the United States with reference to such staple crops as potatoes and apples. The elasticity of the demand for a good thus has an important bearing upon the risks connected with its production. Elasticity of demand means stability of prices, inelasticity variability. To escape the latter in the case of commodities like salt, matches, etc., for which the demand is inelastic, has been a principal motive leading to the organization of some of the trusts discussed in Chapter XXII.

16. **The Law of Variety.**—The normal purpose of consumption is to afford pleasure. Since each kind of good is subject to the law of diminishing utility, the pleasures of consumption may be increased by attention to the *law of variety*. If a man has only corn bread for breakfast, to satisfy his hunger he must push his consumption of it beyond the point where it affords him appreciable gratification. If to his corn bread are added bacon, eggs and coffee, he will be able to supply his body with adequate nourishment, without being obliged to eat corn bread after he has ceased to relish it. Eating has been taken to illustrate the law of variety because it is a universal experience, but the law applies equally well to other forms of consumption. It is really a corollary of the law of diminish-

ing utility, since that law itself suggests the necessity of passing from one form of consumption to another to avoid the uncomfortable feeling of satiety. The ideal which the economic man should, and does unconsciously, have in mind is that of carrying each kind of consumption only to the point where it becomes less pleasurable than another form of consumption that may be enjoyed at the same expense. By changing to the new form of consumption whenever it affords the more pleasure, he is able to get the maximum gratification permitted by his income.

The great obstacle to varied consumption is the expense of a varied assortment of goods, and this is felt most keenly where men live in comparative isolation. Homesteaders in the western part of the United States, and others in similar situations, have to content themselves with rough and simple fare, clothing, etc., because it does not pay them to make, in the small quantities adapted to their wants, those little things which contribute so much to the refinement of life. Every advance which tends to bring people into closer industrial relations is favorable to a more varied consumption and consequently to an increase in well-being. Recent improvements in transportation facilities encourage the hope that the varied markets of the city will one day be brought within the reach of every country family, while city families will be given opportunities to share the free goods of the country. Such an arrangement will add enormously to the general well-being.

**17. The Law of Harmony.**—Next to the law of variety as a guide to judicious consumption stands the *law of harmony*. Harmony of color and form in dress is indispensable to a pleasing effect. In sculpture, painting, architecture and music, harmony is the all-important requisite. Even in eating harmonious combinations are important, as is attested by the pangs of indigestion which follow the consumption of such combinations as

candy and beer, or milk and lobster. In a comparatively new country like the United States the average man is more likely to ignore the law of harmony than the law of variety. The American tendency has been to exaggerate the importance of quantity and size to the neglect of the subtle harmonies which alone give permanent satisfaction. As a result there has been relatively little demand in the United States for the taste and talent of artists and skilled artisans and great demand for the uniform and too frequently ugly products of machinery. The development of large cities and the addition of new racial types to the population through immigration seem to be rapidly changing this situation to the advantage of all classes.

**18. The Law of Least Social Cost.**—A third aspect of consumption involves its relation to production. It is important, by attention to the laws of variety and harmony, to obtain the largest possible return from the stocks of goods available for consumption. It is equally important, while securing a given return of pleasure from consumption, to select those goods which can be produced with the least expenditure of effort. This is the *law of least social cost*. Its first application has reference to the natural conditions of a country.

Economic progress depends in part on the adaptation of men's wants to the productive capacities of the particular regions which they inhabit. When colonists settle in a new country they bring with them a taste for the commodities they were used to at home. The soil and climate of their new environment are rarely suited to the production of these identical things, and hence their well-being depends for some time on the readiness with which they learn to like things for which the new soil and climate are suited. But men do not give up settled habits easily. They waste much time and effort in trying to make the land produce what they like, in place of learning to like what the land can best produce. Thus in America it took

the early settlers a long time to substitute a diet of Indian corn for the diet of wheat and rye to which they had been accustomed in Europe, and many of their early disappointments were due to their unsuccessful efforts to produce the grains of the Old World.

A second application of the principle of least social cost refers to differences in the capacities and tastes of producers. Its importance may be shown by means of an example. Klotz is a poor German who has come to the United States with a talent for playing the violin and some knowledge of shoemaking as his stock in trade. He settles in a town where there is little appreciation for music, and must therefore become a shoemaker. The work is hard and uninteresting. Every day he thinks how much pleasanter it would be to play his violin, but he must stick to his last or starve. As time goes on the town grows and people come to be Klotz's neighbors who appreciate his violin playing even more than his shoemaking. Through their efforts a small orchestra is organized with Klotz as leader, and it is not long before fondness for the music this orchestra can produce has become so general that Klotz finds that he can discard his leather apron entirely and give all of his time to the work that is his pleasure as well as his means of livelihood. By a change of taste in the community a discontented shoemaker is transformed into a happy musician. If the change has been genuine the community gets a full return for what it gives Klotz for his music. It affords as much if not more pleasure than did the shoes which Klotz used to make, but added to this pleasure of consumers is the new-found happiness of Klotz, the producer.

As this illustration suggests, the things that people want and are willing to pay for are the things that must be produced. As consumers the members of society determine how they shall, as producers, spend their time and effort. As regards the necessities of life consumers have

perhaps no very great range of choice. They must learn to like those things that can be produced most easily in the given environment. If Klotz, the musician, gives up making shoes, someone else, who finds the task less irksome, must make them. But only a part of the community's income is spent for necessities. If it prefers as comforts and luxuries articles which can be most advantageously produced in factories where automatic machinery impresses its standards of unvarying uniformity not only upon the products turned out, but also upon the operatives engaged in making these products, then the ranks of factory labor must be crowded and other occupations must be neglected. If, on the other hand, it prefers music and objects of beauty, each one, however simple, reflecting the individuality of the craftsman who has fashioned it with loving thought, then musicians, artists and artisans will find remunerative employment and quite a different tone will be given to the common industrial life. A community's taste thus gives direction to its work and decides for better or for worse the kinds of lives that its members shall live.

The law of least social cost has still another application. As is shown in a later chapter (Section 38) the principle that large-scale production is more economical than small-scale production is subject to important exceptions. In some cases, as, for example, in the production of agricultural products from a limited area, after cultivation has been carried to a certain point, to secure more products requires more rather than less proportionate labor. From the point of view of social cost it is obvious that increased consumption of articles of this sort is less advantageous than increased consumption of commodities whose cost decreases as the quantity grows.

The point that it is important to note in connection with each of the applications of the law of least social cost that has been given, is that the reduction of cost which may

be secured by a simple change of wants involves no corresponding reduction in the pleasures of consumption. Consumers continue to be as well off as before, while producers are better off. Thus changes in wants may add to economic well-being just as effectively as changes in methods of production and are quite as worthy of the attention of economists.

**19. Economical Consumption.**—The most obvious relation between consumption and production grows out of the fact that consumers are also producers, and what they eat, drink and wear, the houses they live in and the amusements they enjoy, have a determining influence on their efficiency. The ways in which different forms of consumption affect productive efficiency are more properly treated in the chapters on production. At this point attention will be called merely to the economy of different lines of expenditure, especially expenditures for food.

Through careful experiments physiologists have ascertained with some degree of accuracy the amount of nutrition which the average man requires each day when engaged in different kinds of work. It is customary to express this as so many calories of heat energy, including so many grams of the indispensable protein, or tissue-building, compounds. The daily allowance made for the average man at moderate muscular work by the late Professor Atwater, an American authority in this field of investigation, is 3500 calories, including at least 125 grams of protein compounds. Men at hard labor and athletes in training require more, while brain workers appear to require somewhat less.

Having established a standard, the next step is to analyze different kinds of food to ascertain their nutritive value. Economical consumption is secured when the cheapest combination of foods containing the required ingredients and both palatable and digestible for the given consumer, is selected. No general rules can be laid down

because of differences in the tastes and incomes of different consumers, but it is interesting to note the relation in which the food values of different foods stand to their cost. Professor Atwater drew up a table giving the quantity of each of several different kinds of food which might have been purchased for ten cents on a given day in New York City, and the amount of nutrition which each contained. From this it appears that, from the point of view of protein contents, the most economical foods were preparations of wheat, corn, beans, oatmeal, beef for stewing and salt cod, while, from the point of view of potential heat energy, the most economical were wheat flour, cornmeal, oatmeal, potatoes, beans, salt pork and sugar. The table seems, on the whole, to bear out the common impression that a vegetable diet is much more economical than a diet consisting largely of meat, and that the cereals, wheat, corn, beans and oats, are the most economical of the vegetables.

Science has, until recently, done very little to aid the ordinary man to direct his consumption wisely and economically, although every investigation into the consuming habits of the poorer classes reveals the fact that, small as are their incomes, a considerable part is wasted because the most economical foods, clothing, etc., are not selected. The importance of this phase of domestic economics is now fully appreciated and there is every indication that rapid progress is being made, especially in the larger cities, toward more economical consumption.

#### 20. Are Expenditures for Luxuries Justifiable?—

Closely related to the question of economy in consumption is the question of luxury. As wealth is now distributed, the majority of families in every community must be economical in order to secure with their limited incomes the necessities and ordinary comforts of life. Contrasted with them are the smaller number of families whose incomes are large enough to permit the enjoyment of luxuries. The question whether under such circumstances

expenditure for luxuries is defensible is a question of morals rather than of economics, but the economist may well be called upon to decide which of the possible uses of surplus income available for luxuries is calculated to contribute most largely to the general well-being.

To give precision to the discussion, *luxuries may be defined as all economic goods which are not necessities.* Necessaries include not merely the food, clothing and shelter indispensable to life, but the entire complex of goods which each industrial class deems requisite to its industrial efficiency. The decision as to what these goods are is not to be made by reference to any absolute standard, but through study of each class affected. For example, manual laborers in the United States would certainly include tobacco among the necessities of life and the economist should include it also in discussing their problems, for the simple reason that the average manual laborer would continue to buy tobacco even though his earnings were too small to allow him to buy in addition goods indispensable to his industrial efficiency. Tobacco is to him a "conventional necessary." A formal definition of economic necessities would thus be: the things absolutely essential to the industrial efficiency of the average family in the class considered, together with the things that are preferred above the absolute necessities by the member of the family who directs its consumption.

It is obvious from the above definition that failure on the part of any family to secure the necessities of life is injurious, not only to it, but to the whole community. Under-consumption means under-nutrition and loss in industrial efficiency. If permitted to continue it must inevitably undermine the standards which make a family self-supporting and self-sufficient and reduce its members to dependency. The general interest will be furthered, therefore, by acceptance of the maxim: the consumption of luxuries should be indulged in only after all are provided with

necessaries. This is a moral principle that commands itself to all civilized communities and finds indirect expression in positive law. The obstacle to its practical application is the difficulty of supplementing the incomes of independent families, when those incomes are insufficient, without undermining their independence and permanently lowering their earning power. Among the measures that have been taken to surmount this obstacle the principal are plans of industrial insurance, by means of which the families of workingmen are assured necessities in times of illness, etc., and the erection of public employment establishments in which those in search of work may earn necessities during periods of enforced unemployment.

In the United States, in times of ordinary prosperity, all but the very lowest in the industrial scale have not only sufficient income to provide for necessities, but some surplus income. Assuming that necessities are assured to everyone, the question arises as to the use to which surplus income may most economically be put. According to strict utilitarian doctrine—which is another name for economic morality—the happiness of any one person is just as important quantity for quantity and quality for quality as the happiness of any other, and hence surplus incomes should be used so as to add equally to the happiness of all. This suggests that no one is justified in spending income for a luxury for himself or his family which will afford less happiness than would the same income spent for a luxury for someone else or for some other family. The difficulty is that independent, self-respecting people do not want luxuries bought with other people's money. If the pleasures connected with economic goods are to be equalized it must be in some roundabout way. Without trying to exhaust the subject a few words may be said about each of the ways in which surplus incomes are usually employed.

Notwithstanding the denunciations of moralists it is still

true that surplus incomes are largely expended on luxuries for the gratification of the spender himself, his family, or his immediate friends. In justification it is often urged by superficial observers that such expenditures "make work" for others and hence benefit them indirectly if not directly. This argument can be presented with a good deal of plausibility so long as only the one use of the income under consideration is thought of. A wealthy man gives an elaborate ball. In connection with it he employs decorators, caterers, waiters, etc. Those whom he invites employ dressmakers, hairdressers, etc., in their preparations for the event. The expenditure on the ball thus causes an active demand for labor of various kinds, which, but for the ball, would not have been required. Those who secure employment certainly regard such an entertainment in the light of a blessing. But consider other uses to which the money spent upon the ball might have been devoted. Suppose that it had been given to a wisely administered charitable society for use in improving the condition of the poor. In such an event it would have been spent also largely for food, clothing and personal service, "making work" for numerous individuals who might otherwise have sought in vain for remunerative employment. So far as its effect on the labor market as a whole is concerned it would certainly convey as much benefit in the second case as in the first. Similar results would follow its expenditure in any other rational way. Even if it were not spent at all, but allowed to accumulate as a deposit in a bank, there is reason to think that it would "make work" for quite as many people as when used for the ball. Banks do not keep their funds in their vaults, but lend them out at interest to business men who employ them in connection with their businesses. This usually means buying materials, hiring workmen, etc., and has as favorable an effect on the labor market as luxurious expenditure. Unless, therefore, the transient pleasure of a few people who are

already satiated with balls and similar diversions is to be esteemed above the lasting improvement of a great many people whose lives are all too bare of sunshine, the "make-work" argument can hardly be held to justify selfish luxury. The truth is that any rational mode of using income stimulates certain branches of industry and is to that extent beneficial to the small class of producers concerned. Money income represents an unassigned share in society's limited store of economic goods. If that share is taken and consumed in a form that affords little happiness, society is so much the worse off than if it had been taken in a form that afforded much happiness.

**21. Saving vs. Spending.**—The use which many economists still urge as the best to which surplus income may be put, is saving and investment. In contrast to purely selfish luxury, saving deserves all of the praise it has received. Wise investment adds to society's material equipment of tools, machinery, buildings, etc., for the production of economic goods. Hence it lightens the toil necessary to the realization of a certain productive result. Even more important is the fact that, through saving, a family may make itself economically independent, not in order that its members may give themselves up to idleness, but that they may choose their occupations with less exclusive reference to what we have called the bread-and-butter aspect of life.

It may be doubted, however, whether, under present conditions, saving beyond what is necessary to assure economic independence benefits the world as much as would wise spending for some social object. Great wealth is almost, if not quite, as demoralizing as great poverty, and the man who really desires to contribute to social improvement will put a check upon his accumulations and give his time and thought to spending such income as he does not require for his own family in ways that will benefit others. If he continues to save he must finally, in drafting his will, face

the problem of the best use of wealth. Passing on to his heirs more than is necessary to insure them economic independence is merely evading an issue which each should face squarely for himself.

**22. Statistics of Consumption.**—It is much easier to ascertain how men earn their incomes and how much their incomes are, than how they spend them. In fact few families have very exact knowledge on the latter point themselves. They know how much they pay for house rent, perhaps how much they spend for coal and gas, but few keep accurate accounts of their expenditures for food, clothing and the incidentals that are an important element in all but the humblest budgets. Nevertheless several useful investigations into statistics of consumption have been made and certain general relations have been established. About the middle of the last century studies of expenditures were made in Belgium and Saxony upon which two economists, Ducpétiaux and Engel, based the following table, showing the proportional expenditures of different classes for different purposes in the two countries.

	<i>Table of Expenditures of a</i>			
	<i>Self-supporting</i> <i>Laborer's Family</i>	<i>Middle-class</i> <i>Family</i>	<i>Well-to-do</i> <i>Family</i>	
	<i>in</i> <i>Belgium</i>	<i>in</i> <i>Saxony</i>	<i>in</i> <i>Saxony</i>	<i>in</i> <i>Saxony</i>
Food . . .	. 61% } 91%	62% } 95%	55% } 90%	50% } 85%
Clothing . . .	. 15	16	18	18
Rent . . .	. 10	12	12	12
Fuel and light . . .	. 5 } 5		5	5
Tools, etc. . .	. 4			
Education . . .	. 2	2	3.5	5.5
Taxation . . .	. 1	1	2	3
Care of health . . .	. 1	1	2	3
Personal service . . .	. 1	1	2.5	3.5

This table, confirmed by general observation, has been verified repeatedly by later statistical studies of consumption. As it indicates, manual laborers spend nearly all

of their incomes in providing for the gratification of their merely physical wants. They have little left for the higher needs of their natures, and if these are to be cared for it must be through community action realizing itself in free public schools, free playgrounds and parks, free concerts, free lectures, etc. People in more comfortable circumstances spend relatively less for food and relatively more for education and personal service. Expenditures for clothing and rent show no diminution, doubtless because clothes and houses are recognized as marks of social position and the desire for social esteem increases rather than decreases as income grows.

**23. Two Aspects of Consumption.**—Thus far attention has been directed to detailed aspects of consumption. In conclusion something should be said touching its broader relations.

Consumption may be looked at economically in two different ways. The more familiar way is to regard it as the goal of economic activity and to show how the desire for goods causes them to have value and price and induces people to engage in industrial pursuits. Though perfectly valid so far as it goes, this aspect of consumption must not be exaggerated. The other way of looking at it is as a means of restoring energy. The consumption of goods necessary to efficiency is not merely an end; it is a means to further production. Human beings are not mere goods-consuming automata. They enjoy activity for its own sake, and the more highly developed they are, the more they are likely to look upon goods as means to the forms of activity they prefer, rather than as ends in themselves. It follows that desire for goods is only one, if the most important, of the motives which control the economic man. Desire for activity is another motive which in individual instances quite outweighs the desire for goods.

At the present stage of human and social development the former of the above ways of regarding consumption is

believed to be the more accurate and helpful to an understanding of economic phenomena. The latter is, however, applicable already to many individuals and classes and must be kept in view in connection with all problems looking to the future. Economic phenomena are related not as cause and effect simply, but in a continuous circle of causation. Men produce, that is, expend energy, in order that they may consume; but they consume, that is, store up energy, in order that they may again plunge into the activities of production. The ideal round is one in which the pleasures of production are as definite and real as the pleasures of consumption. Unfortunately the conditions of production are still so arduous for the mass of men that work is usually entered upon unwillingly and only under the stimulus of the prospect of pay. In the thought of the average man consumption, or the desire to consume, thus stands as the motive for production. In the following chapters the point of view of the average man is accepted, and economic phenomena are explained by reference to it. The other point of view which finds work a joy, and goods merely aids to further work, receives attention in the closing chapter on Economic Progress.

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## CHAPTER III

### VALUE AND PRICE

**24. How Values in Use Are Determined.**—As already explained, the term value is used in economics in two different senses, one subjective, or pertaining to the relation between men and goods, and the other objective, or pertaining to the relation between goods and goods. We will begin this chapter with an analysis of the principles which govern values in use, or values in the first sense, and consider then the relation between such values and the ratios at which goods exchange for one another, or values in the second sense.

The values in use of different goods depend on the intensities of the wants which they are to gratify. When the consumer has but a single unit of each kind of good and that good is capable of gratifying only one kind of want the valuation process is simple. By arranging his wants in a rough scale in accordance with their intensities, he can determine the comparative values of the corresponding goods. He will not be able to gage exactly the importance of the different goods, but he will be able to judge as to their relative importance. Thus if good *a* gratifies a more intense want than good *b*, he will regard it as more valuable than *b*. If the want it gratifies is more intense than the wants gratified by both goods *b* and *c*, he will regard *a* as worth more than *b* and *c* together. In this way by reference to his scale of wants, the consumer is able to value the goods on which the gratification of his wants depends.

But in the case of many goods single units will not suf-

fice to gratify the consumer's wants. On what principle are units of commodity valued when a number of units are used by the same consumer? As explained in the last chapter (Section 13) when a number of units of a good are available the principle of diminishing utility comes into play. The wants to be gratified by successive units of the good may be arranged in a scale according to their intensities. The first units of the good will be used to gratify the higher wants on the scale. Successive units will gratify less intense wants. If the supply of units of the good is limited, the want to be gratified by the last available unit will have an appreciable intensity. This intensity determines the utility of the least important unit in the supply, which will be referred to in future as the *marginal utility*. A little analysis of the valuations that he himself is constantly making will convince the reader that when he has to value a unit of a good of which a stock is available he values it according to its marginal utility, that is, according to *the least utility to him of a single unit of the good under the given conditions of supply*. As a rational person he must value it in this way. All of the units being, by assumption, alike, the same valuation must apply indifferently to each of them. If one is taken away, it is the least intense want dependent on the available supply of the good that will go ungratified. If then this last unit is returned it is this least intense want that will be gratified. Thus it is the marginal utility that is gained or lost by the addition or withdrawal of a single unit of the supply. The value or importance of a unit of the good is, therefore, measured by its marginal utility. It is because of this fact, that is, that consumers habitually measure the values in use of different goods by their marginal utilities, that low instead of high values are ascribed to such indispensable things as wheat, salt, sugar, etc. Such commodities would be immensely valuable if the available supplies of them were not enormously great. As it is, in normal

times, their marginal utilities and consequently their values in use are low. In this explanation we have spoken of marginal utility as a conception applying to the least important unit of a *stock* of a good. But when there is only one unit of a good available then the utility of that unit is necessarily the marginal utility. We may therefore formulate our conclusion as a general law, as follows: *the values in use of economic goods are measured by their marginal utilities.*

In order not to misunderstand the above law the reader should carefully note its limitations. In the first place it refers to the valuations of an isolated individual uninfluenced by the opinions of others. How the complications of an organized industrial society affect the situation is considered later (Section 26). Then, second, calculations of marginal utility or values in use are always prospective. The consumer anticipates wants that he expects to feel in the future, judges by past experience what goods will serve to gratify them and estimates the importance of these goods by reference to his anticipations. As "there is many a slip 'twixt the cup and the lip," calculations of marginal utility may require radical revision before the goods to which they apply are actually consumed. A third limitation is that the law "values in use are measured by marginal utilities" refers to the valuation of single units of goods. This corresponds to our habitual mode of making valuations. When iron is said to be less valuable than gold it is meant that a pound of iron is less important to man than a pound of gold. Every change in the supply of an economic good of course changes its marginal utility and therefore its value. This fact makes the value of a single unit multiplied by the available supply of units quite misleading as an index of total importance. Multiplying the slight value of a pound of iron by the number of pounds in existence would give a total representing very inadequately the value of iron to man. If an approxi-

mate notion of the importance of the total supply of a commodity is sought, the only way to proceed is to add together the utilities of all the different units used by man. Such a calculation, could it be made, would show, of course, that indispensable free goods like air and water are more important than even the most costly economic goods.

**25. The Relation between Values and Costs.**—In the preceding section the valuation process has been considered solely from the point of view of the gratifications which goods afford as they are consumed. Another point of view is that of the pains and sacrifices involved in producing them. To simplify the problem, consider the mental processes of a man living in isolation, like Crusoe on his island, when valuing the products of his own toil, as, for example, the arrows which he must laboriously whittle out as a means to procuring small game. Besides the utility of these arrows there would be in his mind vivid associations connected with the *cost* of making them. In fact until he became quite expert with the bow and could tell quite accurately what an arrow was worth to him in game, he would probably value his arrows in accordance with the labor they cost him. One arrow would be worth perhaps an hour's labor. But an hour's labor, from the point of view of the sensations that accompany it, may mean anything from the pleasurable activity of the first hour after a refreshing night's sleep, to the painful drudgery of the last hour of the day when all of the faculties are crying out for rest. According to which of these standards is the importance of an hour's labor gaged? As on inquiring before which utility determines value, so now on inquiring which *disutility* of those which stand for the different hours of work throughout the day determines cost, we must consider what Crusoe would gain if an hour's toil were spared him. Obviously, he would gain most by stopping work an hour earlier. It is the last hour of the day that involves most disagreeable effort or that has the great-

est disutility. If an hour is to be cut off from the working day it is from this trying last hour that one would wish to be relieved. It stands in the mind for the *cost* of an hour's work, and in valuing an arrow according to its cost it is to it that Crusoe's thoughts would revert. If we call the disutility of this last hour the *marginal disutility* we may say that *the value of a good, judged from the point of view of cost, is determined by the marginal disutility of the labor time necessary to its production.* Men who, like Robinson Crusoe, produce for themselves the things which they consume, may value their possessions either by reference to their marginal utilities or to the marginal disutilities of the labor involved in their production. It is hardly necessary to add that in practice the determination of the cost of an hour's labor is comparative rather than absolute, just as is the determination of the utility of the resulting good.

Since the disutility of each hour's work is compensated by the utility of the product resulting from it, the tendency of the economic man is to continue his labor until the disutility it entails is just balanced by the utility it affords. Every addition to his labor increases its disutility, every addition to the product, according to the familiar principle, diminishes the utility of single units of it. At some point marginal disutility will cease to be fully compensated for by marginal utility, and at that point work must stop if an economic loss is to be averted.

**26. Marginal Utility and Value in Industrial Society.**—The valuations of a Crusoe are necessarily crude and inaccurate because he has only his own judgment and experience to rely upon. In industrial society the valuations of each individual are supplemented and corrected by the valuations of other individuals. Judgments in regard to the importance or marginal utilities of different goods are collective or social and for this reason are more precise than they can be for men in isolation.

The simplest case of social valuation is presented in connection with a commodity like wheat flour, which serves a variety of uses in every household and the want for which on the part of the normal family is quite elastic. According to the familiar principle of diminishing utility each family's consumption of wheat flour may be arranged in a scale in which the high utilities of the more important units will come first and the low utilities of the less important units last. At the very end will stand the marginal utility of the least important unit consumed. As all families consume numerous units of wheat flour, and as this consumption is carried in most families not to the point of satiety, but only to the point at which the sacrifice involved in paying for additional units is not fully compensated by their utilities, all families value a unit of such flour approximately in proportion to its marginal utility to themselves. In this case all consumers contribute something towards the determination of the social valuation upon which depends the relative importance of a unit of wheat flour in comparison with units of other goods.

While the consumption of wheat flour is probably not carried to the point of satiety by most families, the consumption of many cheaper commodities habitually is. A commodity like salt, for example, is not an object of painstaking economy to the well-to-do, but virtually a free good. Its marginal utility to the average family is a negligible quantity because it is consumed as a matter of course down to the point of satiety. The value of such an article is determined by its marginal utility not to the well-to-do, but to the very poor, to whom even the small price of a bag of salt is a burden, and to those who use it in connection with industrial purposes (*e. g.*, in the salt-fish industry, in removing ice from the tracks of street railways, etc.). The value ascribed to it in these connections determines its importance in comparison with other commodities. In the

same class as salt are matches and the other cheap articles which are consumed daily by rich and poor alike. Such articles are no longer objects of economy to the well-to-do, who pay for them what market conditions require and would continue to buy the same quantities, that is, all they have any possible use for, even if the prices they had to pay were doubled or trebled. In such cases values, or the comparative importance of units of different goods, are determined by the marginal utilities of single units of such goods, not to each individual consumer, but to consumers generally. Well-to-do consumers exert no influence because they consume all that they wish without reference to what they must pay for such goods. This leaves the task of valuation to consumers who are less well off and to others who use the articles as materials for further production.

A second characteristic of valuations in industrial society rests on the fact that most goods are not simple utilities, but bundles of utilities. A suit of clothes, for example, is not merely a protection from cold and damp. The modern man pays for this utility in his clothes, but he pays much more for the comfort and elegance of the fit, the social distinction attaching to the fineness of the goods, etc. Since valuation consists in ascribing importance to goods in proportion to their marginal utilities, it involves as many separate steps as there are separate utilities in the goods to be valued. Social valuation differs from that of a Crusoe in that these separate steps are taken by different classes in the community. In the case of clothes, the well-to-do class which patronizes fashionable tailors takes the warmth and comfort of its garments for granted. These utilities are required also by the less prosperous classes in the ready-made clothes which they buy and are valued by them, or even, as regards warmth, by the still poorer classes who buy second-hand clothes. The patrons of fashionable tailors give

their thought to deciding as to the marginal utility to them of the style of cut and distinction of finish. Perhaps the best illustration of this point is presented in the valuation of watches of different grades. Nearly everyone wants one fairly accurate pocket timepiece and few have use for more than one. The money equivalent of the marginal utility of this primary quality in a watch is very great to the well-to-do classes, and if the value of this quality were fixed by them it would be represented by many dollars. But the conditions of production are now such that fairly good timekeepers are brought within the reach of all. The marginal utility which determines the value of this quality is therefore that to people in very moderate circumstances. The watches of the well-to-do have in addition to this primary requisite, durability, beauty, power to give social distinction to their owners, extreme accuracy as timekeepers, etc. It is these qualities that the well-to-do value according to their marginal utilities to themselves rather than the primary quality common to all honest watches. The value of a watch is the sum of the values assigned to each one of its qualities by the classes to which these qualities stand as marginal utilities. As a timepiece it is valued by the people who can just afford to have a timepiece, as a durable timepiece it is valued by a higher class in the economic scale, as a durable timepiece encased in silver it is valued by those just able to have silver watches, as a gold-cased watch it is valued by people in still better circumstances, etc. In each instance the value ascribed to the quality added just before is carried over to make a part of the value of the watch to which still another quality has been added. The value assigned to this last quality is added to the values previously determined to make the value of the whole watch. Thus the value of any good which is made up of a bundle of qualities is the result of a social rather than of an individual calculation of marginal utilities.

The three illustrations that have been given are typical of the valuations that are made in industrial society. Use value is still man's estimate of marginal utility. Not every man's estimate, however, determines it, because in industrial society the valuations of individuals are influenced by those of other individuals with whom they come in contact. The value of each good depends upon its marginal utility to the group of consumers to whom it is an object of economy. If it is composite its value is the sum of the marginal utilities of its different qualities to the groups to which these qualities are objects of economy. Value in industrial society is thus the result of social valuation. It is not so much man's estimate, as society's estimate of marginal utility.

### 27. Marginal Cost and Value in Industrial Society.—

In the economic calculations of a Crusoe, as we have seen, marginal disutility may serve, quite as readily as marginal utility, as a gage of the value of reproducible goods. Disutility, or cost of production, includes all of the painful and disagreeable sensations that men experience in connection with production. Each such sensation stands for a sacrifice and unless the results of production fully compensate all those who have made sacrifices it has entailed loss in well-being. So long as attention is confined to the production of a Crusoe the painfulness of prolonged effort may stand by itself for these sacrifices, but for industrial society with its subdivision of functions a more precise analysis is necessary. In addition to the painfulness of effort is another sacrifice which we may describe as postponing consumption or waiting. This is involved more or less in all branches of production. The workman who labors only eight hours a day may not prolong his effort to a point where it is painful, but he is sure before the day is over to feel that he is making a great sacrifice in continuing at his bench when he might be out in the street or at home with his family. Postponing consumption even until

the whistle blows is one of his costs of production. But under present conditions the postponement required is much longer than this. Modern production is indirect or roundabout. Materials, tools, machines, etc., are produced as aids to the production of consumable goods, and on the average a long period of waiting must intervene between the first steps in production and its issue in goods which are ready for consumption. The postponement of consumption which this entails is little appreciated by most workmen. They experience the painfulness of effort and they must perforce abstain from consumption during their working hours, but the conditions of their employment, as a rule, insure them their wages by the week or the month irrespective of the stage of completion of the goods which they help to produce; and the conditions of their lives, as a rule, cause them to spend these wages for consumable goods as soon, or nearly as soon, as they earn them. Postponing consumption so that production may be carried on in a roundabout way is the economic service rendered by capitalists. It is their wealth which is tied up in the form of the tools, machines, buildings, etc., indispensable to efficient production, and the sacrifices which they make in permitting their incomes to take these forms rather than the form of consumable goods which they could immediately enjoy figure among the costs of production along with the sacrifices of workmen.

Nor is the division of the sacrifices connected with production between workmen and capitalists the only complication to be considered in an analysis of costs. Production is co-operative and many men unite their efforts to effect the creation of even the simplest good. It follows that the cost of production of each good is a sum of sacrifices to which many different individuals have contributed. Workmen of different grades and different capitalists, each contributing only a part of the capital used, have a share in it. Moreover, since cost is at bottom a question

of individual feeling, its amount depends quite as much on the character and circumstances of the producer as upon the productive act which he performs. The most important instance of differences in costs due to differences in the situation of producers is in connection with the service of postponing consumption, or waiting, rendered by capitalists. Capitalists, as the term is here employed, include all sorts and conditions of men from millionaires to dollar-a-day laborers. Society values the services they render by reference not to the sacrifices that are involved for them individually in the accumulation of capital, but to the amount of capital they accumulate. The wage-earner's meager savings assist production no more and are no more important dollar for dollar than the inherited millions of the idle rich. Where the same productive services involve different degrees of sacrifice for different producers, it is the sacrifice to marginal producers, or those whose sacrifice is greatest, that must be counted in the cost of production. This must be compensated by the utility of the product or it will not be incurred any more than will an uncompensated last hour's labor be performed by an isolated producer. The calculation of the cost of production in industrial society is thus a very complex process, and any balancing of marginal cost or disutility against marginal utility must be roundabout and difficult of analysis.

The above discussion of the relation between cost and value in industrial society is intended rather to suggest than to solve difficulties. It touches upon some of the most intricate problems of advanced economics and cannot be pursued further without the fuller knowledge of industrial relations which the following chapters attempt to supply.

#### 28. Values in Use, Values in Exchange and Prices.

—As already explained, the calculations in reference to marginal utilities upon which values in use depend are com-

parative rather than absolute. They approach precision only when there are a number of different goods to be valued and the consumer is given a choice between additional units of one or the other of them. In such cases marginal utilities must be carefully balanced against one another if an unwise selection is to be avoided. The typical consumer of industrial society is an individual with numerous and varied wants having access to markets in which numerous and varied goods capable of gratifying these wants are offered for sale, but limited in his means so that many of his wants must go ungratified. Successive units of each particular good offered for sale obey the law of diminishing utility. In order to get the largest return from the expenditure of his limited means the consumer must consider the law of variety. He must not buy an additional unit of one good when a unit of some other good which may be had at the same, or a lower, price has greater utility. In general he should carry his purchases of units of different goods which he desires down to the point at which the returns in utility for his last units of expenditure are approximately the same all along the line. Only under these conditions is he getting the largest possible return in utility for his expenditures. Economists sometimes speak of the marginal utilities of all of the goods which a person consumes as determining the location of his *margin of consumption*. This margin should be as even as possible to insure the maximum return in gratification to the consumer with limited means.

The balancing against one another of the marginal utilities of units of different goods is one of the factors which determine the ratios at which such units exchange for one another, or exchange values. The practice of exchanging goods for money is now so universal that exchange values are habitually written with a sum of money as an intermediate term. Business men do not compare commodities by saying that so much of one exchanges for

so much of the other, but by noting their prices. They do not say, for example, that a bushel of wheat is the equivalent of two bushels of corn, but that the price of wheat is one dollar a bushel and of corn fifty cents. In conformity with this practice the discussion of the circumstances determining exchange values which follows is couched in terms of prices.

The first principle in reference to exchange values that must be emphasized is that as ratios they can neither rise nor fall as a whole. Values in use, determined as they are by marginal utilities, may increase, but values in exchange cannot. A change in the exchange value of a particular good always and necessarily involves complementary changes in the exchange values of other goods. For example, if the exchange value of a bushel of wheat increases from  $x$  to  $2x$ , the exchange value of  $x$  has diminished from one bushel of wheat to one-half a bushel of wheat. Exchange values as a whole cannot be said to have changed at all. It is equally important to note that the exchange value of any *individual* good *may* increase or decrease, and that this is as true of money, the good in which prices are expressed, as of other goods. When the exchange value of money increases prices fall, when it decreases prices rise. As prices are the barometer which guides business men in all their transactions it is of the greatest importance that that commodity should be selected to serve as money which is least likely to fluctuate in its exchange value.

**29. The Value of Money.**—The value of a unit of money, or of a dollar, like the value of anything else, is man's estimate of its marginal utility. This is identical with the marginal utilities of the goods a dollar will buy. Each man has a certain money income to expend and a certain scale of wants to gratify. His effort is to get the largest possible return for his outlay. To accomplish this he must consider the prices of things quite as much as their utilities. His first dollar should go for that combination

of goods having the greatest utility, his second for a somewhat less needed combination, and so on, each dollar adding somewhat less to his store of utilities than its predecessor. The marginal utilities of the goods purchased with his last available dollar measure the value of a dollar. It is these goods that the additional dollar adds to his store; take the dollar away and it is these goods that he must forego. They measure the importance, or value, of a single dollar in his scale of living.

Few people, even among those who regularly spend their entire incomes for the gratification of their wants, estimate the value of a dollar as rigidly as the above analysis implies, and yet everyone as a result of his business experience has a pretty accurate notion of the value of the monetary unit. If parents sometimes complain that their children are without such a conception, it is a proof merely that conditions have changed since they were young and that the value of a dollar to their children is actually less than to themselves. In the minds of intelligent men the value of a dollar includes not merely the utilities of consumable goods, but leisure for enjoyment, social esteem and influence, the perpetuation of the family name and family traditions—everything, in short, which command over dollars may secure and which seems to them desirable. It is probably true also that some people worship dollars in a quite irrational way for their own sake, though misers who have no ulterior motive beyond hoarding up money are more common in fiction than in real life.

For convenience of analysis it will be assumed in the following chapters that the exchange value of money, that is, the quantity of commodities generally which it can command in the markets of the country, is invariable. This is not quite true in practice, as is fully explained in Chapter XVI., but it is so nearly true over short periods of time that no serious error is involved in the assumption.

30. **The Determination of Prices.**—The circumstances that at last analysis determine the money prices of goods and services are exceedingly complex. To understand them it is necessary to comprehend every phenomenon of economic life. Nevertheless the actual process by which money prices are fixed is comparatively simple. Buyers and sellers come together each with definite notions as to what the prices should be, and the prices finally fixed are the result of their bargaining.

On the side of buyers the following calculations are commonly made: (1) They decide in regard to the values in use of the different goods offered for sale, and if they think of getting more than a single unit of each good they consider the values of additional units. In this connection, as already explained, marginal utilities are decisive. (2) They decide as to the prices that they are willing to pay. As regards most of the goods purchased there is no hesitation. Experience has taught that at the prices at which they may ordinarily be purchased they afford the greatest return in gratification to be derived from the expenditure necessary to such purchase. Thus the normal family purchases flour, sugar and the other staples that enter into the consumption of every household as a matter of course. Deliberation begins only after these necessities are secured, and the question is how to get the largest return for the sum that remains to be expended. Buyers vary greatly in the intelligence they show in disposing of their surplus incomes. Some expend them regularly for goods which they do not really want, but which attract by their novelty. Less impulsive buyers have in mind several different goods which they would like to have. These are arranged in their minds in a rough scale which enables them to decide promptly which of two goods they would prefer at the same price, or whether at different prices the dearer good is worth, in their scale of consumption, the difference. In all of these calculations the

value they ascribe to the monetary unit is quite as important in directing their purchases as the values they ascribe to the goods bought.

The calculations of sellers are usually somewhat more precise than those of buyers. (1) They know pretty closely how much the goods they have to sell have cost them in money, or their *expense of production*. Since they are in business for profit, sellers look upon the expense of producing a unit of commodity as a minimum price, less than which they cannot afford to take except under unusual circumstances. (2) They have accurate information in regard to the current prices of goods and on the basis of this knowledge decide what prices they ought to obtain. At this point sellers are influenced by standards made for them by market and other social conditions, just as buyers are influenced to a certain extent by the standards of others in calculating the values in use of different goods.

There are four possible situations in which buyers and sellers may come together. The simplest is that in which one buyer bargains with one seller to secure a commodity which that seller alone offers for sale. The buyer has made up his mind what price he will pay rather than not get the commodity, but as an economic man he wishes to pay as much less as is consistent with his sense of fair dealing. On the seller's side is a definite idea of the lowest price he can afford to accept, but his business interest calls for the highest price he can get. If the buyer's maximum price does not exceed the seller's minimum price it is obvious that no exchange can take place. If it does, then the market price must lie somewhere between these limits. Just where depends upon the relative skill of the two parties in bargaining.

A second and more common situation is that in which several buyers bargain with one seller who has a monopoly of the good which all the buyers want. This situation

admits of a variety of accompanying circumstances: (1) The monopolist seller may have only one unit of the desired good, as is often the case with dealers in antiques. In such a case the buyer who is prepared to pay the highest price will get the coveted object at a price between that offered by the next highest bidder and his own maximum price, unless, indeed, this last is less than the dealer is willing to accept. How this works out in practice is so frequently illustrated at auctions that there is no need to enlarge upon it. (2) The monopolist seller may have several units of the desired good and these may be incapable of reproduction. In this case he may pursue the plan of getting as much as he can for each unit as it is sold, as is usual at auctions, or of marking each with the highest price which he thinks he can get for all of them, as is usual with "one-price" dealers in antiques. If he pursues the first course the result will be similar to that in the first case. Each successive unit will go to the competitor who was just outbid by the more eager buyer who got the one before. In this case the prices received for different units will vary widely and if all are sold at one time will show a tendency to decline. If the seller pursues the latter course and uses good judgment in marking his wares he will fix on the price which is just equal to the maximum which the buyer whose purchase is necessary to the sale of the entire supply is willing to pay, unless, of course, this is below the price which he is himself willing to accept, when some of the supply must remain on his hands. (3) The monopolist seller may have several units of the desired good and may be in a position to produce as many more units as he considers it profitable to put upon the market. This is the common case of monopoly and is so important that special chapters are devoted to it. At this point it will suffice to lay down the fairly obvious propositions that anywhere below the limit fixed by the maximum price which the most eager buyer is willing to pay, the monopo-

list may fix the price by regulating the supply, and that, in so regulating the supply, he will try to fix the price that will afford him the largest aggregate monopoly profit over and above his expenses of production.

A third situation is presented when one buyer bargains with several competing sellers. Perhaps the most common case of this kind is when a single city family goes in the summer to live in a country district where all other families produce for themselves all of the milk, butter, eggs, chickens, etc., which they require. Under such circumstances, if competition is permitted to work out its full effects, the new family may get the country products it requires for the lowest prices the most eager sellers competent to supply all its needs are willing to accept. More frequently competition is restrained by custom and the buyer has a choice between goods of different quality rather than between different prices for the same goods. This third case of "buyer's monopoly" has resulted at times from the formation of the trusts discussed in Chapter XXII. When all of the manufacturers who use a particular kind of raw material combine, producers of the raw material are placed at a great disadvantage in bargaining. They may be forced to accept a price which is so low as to drive all but the most capable of them out of business.

**31. The Determination of Competitive Prices.**—The last and most common situation is that in which there are several buyers and several sellers, among whom more or less active competition and bargaining are carried on. In highly organized industrial centers this competition shows itself more clearly on the side of sellers than upon that of buyers, and in fact in most branches of trade sellers have adopted the plan of marking prices, leaving it to buyers to accept them or reject them as they see fit. This arrangement does not dispense with buyers' competition as an active force in the determination of prices, since this is

one of the chief factors that sellers consider in deciding what they shall ask for their wares, but it makes the whole process more complicated.

In order to bring out the various influences at work under conditions of two-sided competition, we will examine the case of an auction sale in which an auctioneer has identical goods, bicycles let us say, belonging to different sellers and is instructed to sell as many of them as he can at the highest price he can get, each seller naming the minimum price which he is willing to accept for his wheel. Assume that there are six wheels and that the sellers' minimum prices are \$20, \$22, \$24, \$25, \$27 and \$30, respectively. Among the many would-be buyers at the auction the six who are prepared to pay the highest prices for wheels have in mind as their maximum prices \$40, \$35, \$32, \$30, \$28 and \$25, respectively. Each buyer understands the conditions of the sale, and, as one wheel is like another to him, will be inclined to hold back in his bidding with a view to buying at a low price. All six of them are willing to pay \$25, but at this price only four of the wheels can be purchased, and fear of not getting any wheel at all will lead one of them to bid \$26. At this price five would be willing to buy, but again only four wheels are salable. One buyer must bid more or lose his chance to buy, so \$27 will be offered. At this price five wheels may be sold to the five buyers willing to take them, but if the auctioneer is properly mindful of the interests of his customers he will try to get still more. If he succeeds in forcing the bid up to \$28 there will still be five buyers for the five wheels he is authorized to sell. Any price between \$27 and \$28 will effect the sale of his five wheels, and since the sixth buyer will pay only \$25, while the sixth seller will not take less than \$30, only five wheels can change hands under the given conditions. The price between \$27 and \$28 is therefore the one most satisfactory to buyers and sellers as a whole, and the one which com-

petition, restrained by the self-interest of competitors, tends to establish.

Artificial though the above illustration is, it comes close to representing the forces which determine competitive prices generally. Rival sellers do not entrust their goods to an auctioneer, but they act jointly very much as he acted in the assumed case. Each has a minimum price determined by his expenses of production. All wish the largest number of sales at the highest attainable price. Their inclination as individuals is to put up the price. As competitors they tend to lower it to enlarge the volume of their sales. When competition is active among a number of sellers with varying expenses of production, the price tends to be fixed at a point which affords profits to several, just pays the expenses of production of others and drives others out of business because it does not cover their expenses of production. The part which buyers play in bringing about this result is by seeking constantly for the cheapest market. Their competition is rarely actually excited, as it was assumed to be at the bicycle auction, but its potential force is indicated to sellers by the rapidity with which their goods are sold at the prices which they fix. The more attentive buyers are to their interests in getting goods at the lowest prices, the more likely are sellers to meet price-reductions promptly, so that there will be substantially one price for each particular good at any one time throughout the whole market. The price will be lower than many buyers stood willing to pay, it will just about suit the ideas of others, while still others will find it too high.

In stating that two-sided competition will tend to establish one uniform price instead of a variety of prices for identical units of the goods sold, we are simply describing a fact of common observation in highly organized markets. Experience has taught both buyers and sellers the advantage of agreeing upon the one price at which a maximum

number of sales may be effected, and all the machinery of competition, published price lists, clearly marked prices on goods offered for sale, etc., is designed to bring this about. Only in communities in a backward condition industrially, as in Italy for example, do any large number of sellers at retail continue to make the determination of the price at which each good shall be sold a matter for a special bargain. The time that is wasted in useless haggling when this plan is followed is convincing proof of the superiority of the one-price system. In the wholesale trade special bargains between the wholesale dealer and his customers are more common and skill in bargaining is an important requisite to success. The price limits within which such bargaining is confined are, however, narrow, as the wholesaler is always restrained in individual transactions from making too great concessions by the fear that he may alienate his other customers.

Generalizing on what has been said, we may conclude that two-sided competition and bargaining among buyers and sellers tend to establish one price or a narrow range of prices for each good and that this corresponds to the money equivalent of the marginal utility of the good to the buyer who is just induced to buy and to the expense of production of the seller whose supply is necessary, along with the supplies of sellers who produce more cheaply, to satisfy the demand of the market.

**32. Market Prices and Normal Prices.**—A review of the four possible modes of price formation that have been described leads to the conclusion that the money equivalents of the marginal utilities of the goods offered for sale to those whom we may style the *marginal buyers*, that is, the buyers who are just induced to buy, always have an important influence on prices. Who the marginal buyers shall be, depends in turn always on the supplies of goods that are sold. In case there is only a limited number of units of a good in existence or its production is controlled

by a monopoly, the supply is absolutely or arbitrarily fixed, and the price to be obtained for such supply may be said to be determined by what the marginal buyers will pay. In the more common case of freely reproducible goods prices correspond on the buyers' side to what the marginal buyers will pay, on the sellers' side to what the *marginal sellers* are willing to accept. Over short periods marginal sellers may be willing to accept whatever prices market conditions enable them to obtain. Market prices are, therefore, fluctuating prices rising and falling from day to day or even from hour to hour. Over long periods, however, marginal sellers cannot afford to accept less than will cover their expenses of production. This fact leads economists to recognize that behind fluctuating market prices are *normal prices*, corresponding to the expenses of production of marginal sellers. These are the standards about which market prices tend to fluctuate.

Before attempting to define more precisely normal prices or to analyze the elements that enter into the expenses of production of marginal sellers, we shall find it advantageous to study the subject of production itself. For it is only after the whole circle of production, distribution and consumption has been traversed that all of the elements that enter into the determination of values and prices can be understood.

#### REFERENCES FOR COLLATERAL READING

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## CHAPTER IV

### PRODUCTION: LAND AND NATURAL FORCES

33. **Definition of Production.**—Production has already been defined as the creation of utilities. That man cannot create matter is a familiar truth. All that he can do is to rearrange particles of matter so as to create *form* utilities; or move goods from one part of the world to another so as to create *place* utilities; or preserve goods from one period to another so as to create *time* utilities; or, finally, transfer goods from the ownership of one individual to that of another so as to create *possession* utilities. Any activity which contributes to the creation of utilities in either of these ways is production.

A school of French economists of the eighteenth century, the Physiocrats, gave currency to the belief that agriculture is productive in a special and peculiar sense. They even went so far as to characterize manufacturing and mercantile pursuits as *sterile*, or unproductive. Adam Smith, writing in 1776, took vigorous exception to this view, but he, too, speaks of nature as "laboring along with man" in farming, implying that it does not "labor along with" him also in his other occupations. Completer knowledge of the real nature of production has emancipated most minds from these misconceptions. They reappear from time to time, however, in criticisms of the activity of merchants, who are said to create nothing, but to live, like parasites, by buying things for less and selling them for more than they are worth. The obvious reply to such attacks is that merchants create time, place and possession utilities and that human well-being depends as

much upon these as upon the form utilities created by farmers and manufacturers. Convincing proof of the value of the services of merchants is furnished to city people when they go to live in the country in the summer and have to depend for the goods they require upon a distant and ill-stocked country store. The growing prevalence among country people of the practice of coming to town to do their shopping indicates, on the other hand, their practical appreciation of what the merchant does for the community.

**34. Nature and Man the Factors in Production.**—As already implied, there are two essential factors in all productive processes: nature and man. Nature figures in production as an aggregate of materials and blind forces. Acting in conformity with invariable laws, she destroys as readily as she creates. Moreover, her productive services are always gratuitous to him who has the intelligence to command them. Man, on the contrary, appears as a being with conscious purpose. He also destroys—not ruthlessly, however, as nature seems to do, but in order to gratify his wants. In production man is the directing, active agent, nature the obedient, passive agency. Man marshals the materials and productive forces which nature supplies in the ways that experience has taught him to be best, and he alone enjoys the fruits of productive enterprise.

Man and nature are the primary factors in production; secondary or derived from them is *capital, the products of past industry used as aids to further production*. With the abundant evidence on every side of the dominant rôle which power machinery and other forms of capital play in production as now carried on there is little need to emphasize the importance of this third factor. To capital is chiefly due the efficiency of contemporary productive methods, as contrasted with those of one hundred and fifty years ago, and also the division of the working population into employers and employees. These truths are so fa-

miliar to everyone that it is not so much the importance of capital as the fact that it is not an independent but a derivative factor in production that requires emphasis.

**35. The Productive Services of Land.**—As the term is commonly used in economics, "land" designates the surface of the earth and the materials above and beneath it. It thus includes bodies of water and what they contain. The principal ways in which land, in this sense, assists in production may be enumerated as follows: (1) It affords *support* for man and the buildings, etc., he erects upon it; (2) its *extension* permits the movement of men and goods from place to place; (3) its *geographical features*, mountains, valleys, rivers, bays, etc., aid in many ways; (4) it supplies the *materials*, mineral, vegetable and animal, from which all commodities are made; (5) each portion of it enjoys its share of summer's heat and winter's cold, air, sunshine and rain, without which no form of life could long continue on the earth. Properly speaking some of these endowments of land, such as heat and sunlight, are forces rather than materials. The principal other natural forces which aid in production, as at present carried on, are the force of gravity, the vital forces that cause the growth of plants and animals, the expansive force of steam, electrical force and the explosive power of gases.

Land and natural forces have been available for human use for one hundred thousand years or more, but only in recent times has man begun to appreciate and utilize them at all fully. His early discoveries of fire and its uses, of methods of navigating by water and of the metals, and his first domestication of animals and cultivation of plants, followed one another at long intervals and were the results, there is reason to suppose, of happy accident rather than of deliberate study and experiment. Only in the last two centuries has systematic progress been made in the task of understanding nature and directing her forces toward human ends. The results already achieved in analyzing

materials into their elements and gaging accurately their importance for different uses, in generating and controlling steam and electricity and in finding new employments for these and other natural forces, seem to justify extremely optimistic anticipations in regard to the future of the race upon the earth. They have served in large measure to shift the attention of economists from the problems of production, which seem in process of such happy solution, to the problems of distribution, which become more rather than less complex as general wealth increases. There is the more excuse for this shifting of interest because different phases of production are beginning to be dealt with in special treatises. "Economic geography" is a description of the part which land and natural forces play in production. "Economic geology" treats more especially of rocks and minerals in relation to human well-being. Similarly, treatises on agriculture, on mining and on different kinds of manufacturing, describe the technique of modern production in its different branches. It remains for a treatise on economics merely to call attention to the more general aspects of the part that nature plays in production.

**36. Different Characteristics of Different Pieces of Land.**—It is a familiar fact that different areas of land are unequally fitted to aid production in the ways that have been described. Most obvious are differences in geographical features. There is but one New York Harbor on the American continent, and its superiority in all essential respects to other harbors causes every square foot adjacent to it to be eagerly utilized in the promotion of a vast commerce. Similarly, there is but one source of water power like that supplied by the Niagara River and there are no other fresh water courses comparable with the Great Lakes and the Mississippi and its tributaries. Though less unique other geographical features are important and influence in large measure the forms of industrial

activity that flourish in the regions in which they are found. Differences in mineral resources are quite as marked. Geological changes, most of which antedated the appearance of man upon the earth, deposited beds of iron ore in one locality, strata of coal in another, veins of gold and silver, copper and lead in still others and in others layers of barren rock. The influence which these mineral deposits exert on the kinds of industry that are to be carried on in different sections and on their prosperity is too familiar to be dwelt upon. Differences in soil, climate, rainfall and the other conditions affecting agriculture are equally in evidence and play their part in shaping a nation's industries.

Although most of the characteristics of different pieces of land are, economically speaking, unalterable, others admit of considerable modification. However admirable a harbor may be as fashioned by nature it can nearly always be improved by man. Important as were the Great Lakes as a natural water course their usefulness has been much increased by the construction of the Erie, Welland and Sault Ste. Marie canals. Even more marked are the changes which man may make in preparing the soil for agricultural use. Besides clearing land from forests and from stones and draining off surplus water, he can often change comparatively poor to very good soil by means of fertilizers. As the English economist, Professor Marshall, has suggested, the various qualities that fit a piece of land for the cultivation of a particular crop or series of crops may be compared to the links of a chain, and as the strength of a chain depends upon that of its weakest link, so the fertility of a piece of land depends upon the quality in respect to which it is most deficient. In the same way that the strength of a chain may sometimes be increased many fold by repairing an imperfect link, so land may often be raised to a much higher plane in the scale of fertility, if its one serious defect is remedied.

In new countries where land is abundant and labor and capital are scarce and dear, the tendency is to rely mainly on the natural qualities of different soils and to make little use of fertilizers. As a country becomes more populous and land is in greater demand, fertilizers are more freely used and the tendency is for each piece of land to be supplied artificially with the qualities in which nature has left it deficient. In this way continuous cultivation tends to obliterate the differences which originally distinguished different soils in the same general region and to raise them toward one uniform standard of excellence. This makes it difficult, if not impossible, in an old country to determine to what extent the fertile properties of a given piece of land are due to nature and to what extent to man. In the United States it is probably still true of agricultural land that it owes the principal characteristics that fit it for production to nature. This is even more the case, of course, with its mineral and forest lands.

**37. Differences in Expenses of Production Due to Differences among Different Pieces of Land.**—If attention be confined to some particular product, such as iron, coal, wheat, corn or wool, and a study be made of the conditions under which it is produced in a country like the United States, it will be found that some of the supply comes from areas where the natural conditions are very favorable to such production, that other portions come from areas where the natural conditions are less favorable and still others from areas so situated that the production is barely profitable. To illustrate by reference to iron: some of the ore is of such richness and is so easily mined that each year's output affords a profit to mine owners and operators so large that in a short time it amounts to a princely fortune. Other ore is less rich and mined under greater difficulties, but still pays a handsome profit over all the expenses of its production. Still other ore barely repays the expense entailed in putting it on the market. It may be,

and often is, the case in mining that still other ore is taken out of the ground and sold at an actual loss to those engaged in the business, the loss being made good for a time out of the capital of such business men in the hope that the ore will improve with depth, or that it will command a higher price, or that something will occur to make the enterprise a success. In addition to this poorest ore mined there are known to be vast bodies of ore of even inferior grades which might be mined and would be mined if market conditions were to change so as to make it profitable. In iron mining and other branches of mining there are thus different producers incurring quite different expenses of production, ranging from those whose expenses are low to those whose expenses are barely covered or even not quite covered by the price. The more fortunate receive in the current price a considerable margin over their expenses of production, which is to be explained, economically, as due to the superior natural resources which they exploit.

A similar situation is found in farming and may be illustrated by reference to the cultivation of wheat. The expense entailed in producing wheat on the bonanza wheat farms of the Dakotas, even including the transportation charge to the distant market, is very considerably less than the expense of producing wheat for the same market in Michigan, owing to differences in the favorableness of soil and climate in the two sections. Some wheat farmers realize regularly year after year a considerable margin above the expenses of production in the current price, others realize a smaller margin, others barely pay expenses, while, in some years, still others incur a loss and have cause to regret that they did not devote their land to some other use. In addition to the land used for wheat there is still other land that is even poorer for this purpose, but that could and would be used to swell the country's wheat crop in case market conditions changed so as to make this prof-

itable. In wheat farming and other branches of farming there are thus considerable differences in the expenses of production incurred by different farmers, and since all obtain approximately the same prices for the same products in the central market, allowing of course for variations in quality, these differences cause some to reap large profits, some to reap smaller profits, some to just meet their expenses and some, perhaps, actually to lose on the year's industry. Here again superior natural advantages are the source of the higher profits which some realize.

An exactly similar situation is encountered in branches of manufacturing which utilize water power, the supply of which is limited. Those who control superior sources of water power obtain their power more cheaply than their competitors using inferior power. So long as all manufacturers sell their products for the same market prices, those controlling the superior powers must reap an extra profit traceable to this natural superiority.

From these typical illustrations it appears that land and natural forces assist different producers for the same market unequally. Since they all receive approximately the same prices and since these must be high enough to cover the expenses of production of the men who produce at the greatest disadvantage, but whose supplies are necessary to satisfy the demand of the market, those producing under more favorable conditions must reap a profit due to these conditions. This special form of profit, which in the aggregate represents an important share of the wealth annually produced, is known in economics as *rent* and will receive further consideration in the chapter on that topic.

**38. The Law of Diminishing Returns.**—But, it may be asked, if nature assists production so unequally in different localities, why is not the whole supply of each particular commodity produced in that one spot which is best adapted for the purpose? The answer to this question suggests an important economic principle. All of the iron ore

needed in the United States is not produced from the richest iron mine, because that mine does not contain enough ore to satisfy a hundredth part of the demand. All of the wheat required is not produced from that one acre best suited to wheat culture, because it could not produce a millionth part of the wheat needed. Equally inadequate is the water power even of Niagara to generate the force needed to keep all of the manufacturing machinery in the country in motion.

In practice, as is well known, it does not pay to extract all the ore from even the richest mine at too rapid a rate, nor to cultivate too carefully even the best acre of land, nor to utilize too fully even the finest water power. In each of these cases the producers encounter what is known in economics as the *law of diminishing returns*. Briefly stated this law is that *after a certain point has been passed in the cultivation of an acre of land or the exploitation of a mine, increased applications of labor and capital yield less than proportionate returns in product*, it being understood, of course, that no important change is made in the method of cultivation or exploitation. To illustrate by reference to wheat farming: a given acre of land may be cultivated in numberless different ways, each more elaborate than the preceding and each giving rise in a normal year to a somewhat larger crop. It may be plowed once, twice, three or even four times, and each plowing will add somewhat to its preparedness to receive the seed. It may be harrowed correspondingly. The use of fertilizers familiar in the region offers a wide range of possible variation, each having some perceptible effect on the year's crop. While the crop is maturing a great number of different precautions may be taken to protect it from the ravages of birds, insects, storms, etc. It may be irrigated, or great pains may be taken to drain off quickly an excess of rainfall. It may even, as is said to have been tried on the Island of Guernsey, be covered with glass. In these and

hundreds of other ways labor and capital may be applied without exhausting the productive capabilities of the land. Some of these possible improvements in the method of cultivation beyond the roughest scratching over of the soil may, and usually will, yield more than proportionate returns in the wheat crop, but after a certain point has been passed all experience confirms the law that further improvements afford less than proportionate returns. Unless this were true, indeed, there would be little occasion for dividing up rural families and sending some of the sons to take up new land. Every additional hand on the old farm would add his proportion to the joint produce and a farm of a hundred acres would support a score of families as well as one.

To give precision to the statement of the law of diminishing returns it is customary to distinguish between the "extensive" and the "intensive" margins of cultivation. If, for example, the demand for wheat increases so as to induce the production of a larger crop, the additional supply may come from either or both of two sources. Wheat farmers in the settled portions of the country may make their farming more *intensive*, that is, apply more labor and capital to the cultivation of each acre and in this way add to their crops. Others may be induced to take up new land and prepare it hastily for *extensive* farming. If both results follow the prospect of a somewhat higher price for wheat, as they would if farmers were always alert to their own interests and able to adapt their methods promptly to changing market conditions, there will be two situations in which the expenses of producing wheat are just covered by the price. The wheat grown on the poorest land hastily plowed and planted, or on the *extensive margin of cultivation*, will barely repay the expenses of production. So also will the additional wheat raised by the application of additional labor and capital at the *intensive margin of cultivation*. The producer at either margin may in such

a case be properly described as the *marginal producer* whose expenses of production are just covered by the price of the product. The fact that his *additional* wheat just about pays for itself will not, of course, prevent the farmer at the intensive margin from realizing a rent from that wheat which he continues to produce at smaller proportionate expense.

**39. Differences between Different Pieces of Land Due to Social Causes.**—In the preceding sections the natural differences between different pieces of land have been discussed as though they alone determined the importance of land to man. That this is far from being the case is illustrated on every hand. Each year sees large tracts of land in the United States enhanced in value simply because of changes in market conditions or improvements in the means of transporting products to the market. To some extent the growth of markets is itself determined by natural conditions, but it will be simpler to regard it as the result of social changes. In fact natural and social influences act and react upon the value of land in such a complex way that it is vain to try to separate them. A few illustrations will suffice to put in its true light the importance of the social factor.

China and the United States are said by geologists to be about equally endowed with coal and iron resources. Nevertheless, while the coal and iron mines of the United States are worth thousands of millions of dollars, the deposits of China are of little value. This is obviously not because China is a new or sparsely peopled land. It is entirely because the "age of steel" has not yet dawned there, or is only just beginning to dawn. Another one hundred years may see the coal and iron resources of China as highly valued as are those of the United States to-day. Such a change will be due to social influences, the natural advantages of the two countries having undergone no alteration.

A similar contrast is presented when agricultural land on the outskirts of a city and equally fertile land hundreds of miles away from any market are compared. The city market gives high value to the suburban tract. It is cultivated intensively and affords a high rent to the owner. On the other hand, the remote acres, if cultivated at all, will repay only a minimum expenditure of labor and capital. In place of the garden produce raised on the suburban farm, the isolated farmer must raise some staple crop, like wheat or cotton, which can be transported cheaply and with slight deterioration to the far-off market. Here again social influences make suburban land valuable and remote ranch-land of little worth.

A still more striking contrast is presented by a comparison of city real estate, priced by the square foot, with agricultural land, priced by the acre. Next to man's need for food and clothing comes his need for shelter or for a house. Food and clothing may be produced at great distances and brought to him from day to day in the small quantities that he requires. A house must be available in its entirety all the time, and it must not be so far away from his place of business as to make his daily trips back and forth unduly irksome. This accounts for the fact that when land begins to be thought of for building purposes its importance is at once greatly enhanced in human estimation. The more concentrated the activities of a city and the larger its population, the greater will be the demand for each piece of land favorably situated for building. Thus as a place changes from a country four-corners to a village, then to a town and then to a city, the values of building sites within its limits tend to rise, although with many fluctuations as regards particular quarters, and the rents which their utilization affords to increase correspondingly. The invention of the bicycle, the trolley-car and other conveniences for passing quickly and easily from one's place of business to one's house may

check this tendency somewhat, and, if these improvements follow one another rapidly, may check it entirely or set up a counter tendency, but during the last quarter of a century the increase in the value of city real estate and of the rents that such property affords have been phenomena common to all civilized countries. How far this may go in particular instances is illustrated by the fact that a lot sold in the heart of London recently for a price which would make an acre of unimproved land in that locality worth \$2,300,000. In some sections of New York City land is equally valuable. In these cases also the increased value and correspondingly enlarged annual return are ascribable to social influences.

Generalizing on these illustrations, we may conclude that differences in situation in respect to markets and other social conditions are quite as influential as natural differences in determining the importance of different pieces of land and the rents they afford. When these social conditions are created by the forethought, enterprise and labor of some particular individual or group of individuals, as when, for example, a suburb is deliberately planned and brought into being by a syndicate of real-estate operators, we have a case similar to that presented by the modification of the character of agricultural land by drainage or fertilization, in which it is very difficult to distinguish man's purposive share in the result from the share of an unconsciously evolving community. These difficulties receive fuller consideration in the chapters on Distribution.

#### REFERENCES FOR COLLATERAL READING

\* *Seligman*, Principles of Economics, Chap. XX.; \* *Bullock*, Selected Readings in Economics, Chaps. I. and IV.; \* *Marshall*, Principles of Economics, Book IV., Chaps. I., II. and III.; *Walker*, Political Economy, Part II., Chap. I., and \* *Land and Its Rent*; *Nicholson*, Principles of Political Economy, Vol. I., Book I., Chaps. II. and IV.

## CHAPTER V

### PRODUCTION: LABOR AND CAPITAL

40. **Labor as a Factor in Production.**—Of co-equal importance with nature as a factor in production is man. His contribution to the productive result depends partly upon his capacity as an individual and partly upon the way in which his efforts are applied, that is, whether to direct or to capitalistic processes of production, or whether independently or in co-operation with the organized efforts of others. Each one of these circumstances merits separate consideration.

The principal qualities which determine an individual's capacity as a producer are the following: (1) health, (2) physical strength and endurance, (3) intelligence, (4) judgment, (5) ambition, (6) energy, (7) perseverance, (8) imagination, (9) mechanical ingenuity and (10) technical knowledge. The importance of health and physical strength, especially to those doing manual work, is obvious. Intelligence and judgment are important adjuncts to the man with pick and shovel; they are indispensable to men in the higher grades of industry. Ambition, energy and perseverance are qualities that characterize all the world's greatest men, and without which other qualities are of little value. Imagination is important because to it are traceable all great inventions and discoveries. Mechanical ingenuity, though less important to the mass of men than formerly, when fewer tasks were performed by automatic machinery, is still a valuable quality. Technical knowledge, on the other hand, gains each year in importance as the ways of doing things that are

found to be most efficient increase in complexity. It is evident that the importance of these different qualities depends upon the kind of work to be done and that industrial progress tends to lessen the importance of some while it increases that of others.

**41. Qualities Determining the Productive Efficiency of Workers.**—The above qualities, like other human characteristics, are either inherited or acquired. Whatever their origin in special cases the same general conditions, acting either on successive generations or on living men, account for their presence. A few words will serve to suggest what these conditions are.

The circumstances influencing health and strength are well understood. Fresh air and exercise, good food, adequate protection from dampness and sudden changes in temperature and the avoidance of all kinds of excesses, are the principal requisites. Of these good food is perhaps the most important. The human body resembles a machine, and the amount of work it can do depends very largely on the quality and quantity of the fuel, that is, the food, with which it is supplied. At the present time vigorous measures are being taken in all progressive countries to provide the requisites to health and strength for all classes. Sanitation and factory acts have been passed to insure the healthfulness of the conditions under which men work. A great deal of attention is being given, especially in those countries which maintain large standing armies, to the question of determining what diets are best for people doing different kinds of work, and model kitchens are being organized in the poorer quarters of cities to teach people to appreciate nutritious and properly prepared foods. Efforts to improve the tenement houses in which the populations of the larger cities live are also being put forth and with some success. Mention should also be made of the public baths, the playgrounds for children and the open-air gymsnasiums which are being erected in

those cities in Europe and America which are most progressive in caring for their inhabitants. Finally, it would be difficult to exaggerate the importance of the efforts that are just now being made to stamp out two of the most devastating diseases from which the human race has suffered, yellow fever and consumption. As is shown by mortality statistics, these efforts are beginning to bear fruit in the improved health of present-day city populations, but much yet remains to be done for both city and country people. There is no form of philanthropic activity which is more certain to benefit mankind than that designed to improve the conditions under which the mass of men live and work. Restored health and vigor are blessings in themselves, but equally important is the fact that they make for more efficient production and enable their possessors not only to hold what they have gained, but to add steadily to their advantages through their increased earning power. Every improvement that can be made in home and factory surroundings without undermining the independence and self-respect of the population is thus a certain means of "helping people to help themselves."

The development of intelligence and judgment depends largely upon education, and here too undoubted progress has been made. In place of the formal and traditional methods that have prevailed in the schools, methods having direct reference to the organic development of children are beginning to be introduced. Moreover, the proportion of children who go to school is on the increase, and the expenditures that modern states make for public education are growing. Nevertheless there is still much to criticize in current educational practices and in the shortsightedness of democratic states in not contributing even more liberally to the support of education. In it lies the hope of the future, since through its agency the standards of each generation of children are elevated. These higher

standards may be passed on to the next generation of children to be raised still further in the schools, and so the process may be repeated with steady progress as its necessary consequence. If improving educational advantages are added to steadily improving home surroundings, the advance of the race cannot fail to be rapid.

Ambition, energy and perseverance depend partly upon a people's range of wants in comparison with the means to their gratification, and partly on the probability which the situation presents that effort and enterprise will be crowned with success. These qualities are conspicuously lacking among a people which has developed few wants and whose means of livelihood are so limited by natural and social conditions that even the greatest efforts cannot result in a large command over economic goods. They are as conspicuously present among a people with numerous and varied wants to which are open a great variety of promising ways of acquiring wealth. This contrast is well illustrated by the difference between the peasantry of Europe and the plain people of America. Poverty of resources and the restrictions of a class organization of society tend to stifle the ambitions of the former as markedly as wealth of resources and absence of rigid class barriers tend to stimulate those of the latter. The most desirable situation for the fostering of these qualities is evidently one in which different scales of living prevail side by side and in which at the same time equality of opportunity is preserved. The danger in a country like the United States is that an aristocracy of wealth may grow up to monopolize the easiest means of acquiring further wealth and to hold the mass of the people down to working for mere wages. Under such circumstances different scales of living would foster not ambition but merely envy and bitterness in the minds of those who have little prospect of improving their condition. This danger must be kept in view in connection

with the question of limitations that it may be desirable to impose upon monopolies and the rights of property.

The conditions favorable to the growth of imagination, mechanical ingenuity and technical knowledge call for no extended discussion. Imagination is still little understood. It seems to be fostered by variety of surroundings and experiences, and by attention to unsolved problems which contain an element of mystery. Perhaps the most that is to be hoped for from present educational methods is that they will permit some part of the imagination which seems to be natural to childhood and youth to be carried on into manhood. Manual training, to which more and more attention is being given in the United States and abroad, is, of course, directly productive of mechanical ingenuity. The greatest progress made in connection with any of the enumerated qualities is to be found in the field of technical knowledge. Technical schools, courses in colleges and universities, correspondence and evening classes and journals unite to bring the knowledge necessary to efficient production within the reach of all. In addition to these admirable facilities for disseminating knowledge already acquired, more and more attention is being devoted to the acquisition of new knowledge. Every State in the United States has at least one privately or publicly endowed university intended to encourage scientific research. To supplement these are the national institutions dedicated exclusively to research work, the Smithsonian and the recently founded Carnegie Institute. Moreover, many individuals are devoting their lives and their fortunes to experiments directed towards discovering improved methods of gratifying human wants. Taking all of these things into account we may predict with confidence continued progress in the technique of production.

Co-operating with the conditions favorable to the development of individual capacity that have been enumerated are the silent forces of evolution. Although interfered

with by the growth of benevolent instincts and agencies which intervene to preserve many of the unfit from destruction, these forces aid powerfully in the process by which each people surrounded by a favorable environment becomes fitted to make fullest use of that environment. Weak and incapable lines of heredity are cut off in each generation and the field is left to the stronger and more capable. In prosperous communities the weeding-out process affects not merely the underdeveloped and underfed, but the overdeveloped and overfed. Dissipation is as common a cause of premature death and failure to continue the line of heredity as starvation. Evolution thus operates not only to enable each succeeding generation to get a larger return for its efforts, but to educate it to a wiser use of its material advantages. The surviving type of successful man is less and less self-indulgent and more and more philanthropic in his instincts and habits as generation follows generation. From this it results that progress itself causes more and more attention to be devoted to the conditions leading to progress and hence tends to be a cumulative process.

**42. Capitalistic Production.**—Given a certain standard of individual capacity on the part of a laboring population, its productiveness depends next upon the extent to which its methods are capitalistic. By capitalistic production is meant production which attains its ends, not by the direct and immediate creation of consumable goods, but indirectly through the creation first of tools, machines and other material aids to production and the creation subsequently, with the help of these capital goods, of the consumable goods desired. Capitalistic production is thus round-about instead of direct, and involves a longer interval of time between its inception and its completion. It can be adopted only by men who are willing to forego immediate gratifications and to permit their incomes to assume the intermediate form of capital goods so that in the end a

larger output of consumable goods may result. Such conduct involves *abstinence* from present consumption, *saving* income or productive powers instead of using them to minister to immediate consumption and *waiting* until the longer productive process shall be completed. "Abstinence," as the term is here employed, denotes simply not doing something that ordinarily it would be pleasant to do. It need not necessarily involve any element of pain or sacrifice, because the purpose accomplished through it may be even pleasanter than the things abstained from. Usually, however, abstaining from present consumption does involve some sacrifice for the psychological reason already explained (Section 14).

The superiority of capitalistic over direct production and the reasons for it will appear clearly from a few illustrations. One of the most urgent needs of a pioneer in a new country is for fresh water. Having found a spring he may gratify this need by scooping up the water with his hands. This will be direct production. Or he may make a cup in which he can dip up, by stooping once, all of the water he can drink. Such a cup will be a capital good and the process will be capitalistic production. It will multiply largely the return resulting from the effort of stooping. Or he may fashion a larger vessel in addition to his cup with which he can dip up at one time all of the water he requires for a whole day. This will be more highly capitalistic production. Or, finally, if the spring happens to be at a higher level than his cabin, he may construct a trough of hollowed logs capable of conducting the water from its source to his very door. This will be much more highly capitalistic production than either of the other processes, and its return will be correspondingly larger. The force of gravity will now relieve him entirely of the task of carrying the water, and all that he will need to do to secure an abundant supply will be to keep his trough in repair.

These illustrations are typical of the advantages of capitalistic production. It enables man to apply his own efforts more effectively, as when he uses tools or implements, or to command the assistance of natural forces which without the aid of capital goods would be beyond his control. The forces of gravity, steam and electricity can be utilized effectively only in connection with the forms of capital appropriate to them. For these reasons a given expenditure of effort in capitalistic production is usually more fruitful of results than the same expenditure in direct production, and, the more highly capitalistic or prolonged the process, the larger, generally, the return in consumable goods for each unit of effort expended.

**43. The Different Kinds of Capital.**—Business men are in the habit of speaking not of "capital goods," but of "capital." By this they mean sometimes capital goods themselves, but more often these goods measured in terms of money. Capital goods wear out and need to be replaced. Individually they come into being, are used and are then discarded. But capital, as the business man thinks of it, is more permanent. It is the complex of capital goods, used in connection with each branch of production, measured in terms of money. To the extent that prices are stable and that the efficiency of production is maintained, the money equivalent of this complex of capital goods changes little if at all. Each year's inventory shows about the same aggregate, although each year the particular capital goods embraced in the inventory are different from those of the year before.

In comparing different methods of capitalistic production two factors must be considered: the average amount of capital required for each process and the average time that elapses in each case before this capital is completely used up or converted into consumable goods. For example, compare two branches of manufacturing in one of which the entire equipment of capital goods has to be

renewed on an average once a year, while in the other the equipment requires renewal only once every two years. If each factory requires exactly the same amount of capital from day to day the first will require for continuous production twice as large a replacement fund as the second because its capital goods wear out twice as fast. Economists give precision to the contrast indicated in this illustration by distinguishing between *fixed* and *circulating* capital goods. Fixed goods are those which endure for some little time without replacement. Circulating goods are those, like coal, which are destroyed in a single use. It is obvious that these are relative terms and that capital goods present all possible gradations of fixity.

Capital goods differ also in the extent to which they are *specialized* or *free*, or in their *mobility*. Raw materials such as coal, iron, etc., are as a rule very mobile. They may be devoted at will to any one of a dozen different productive uses. On the other hand, machines, buildings, etc., are highly specialized and either cannot be diverted to any other use than that for which they were originally designed or not without a great loss in value. Permanent improvements in land are of course quite immobile and an unwise creation of this type of capital goods may result in complete loss without possibility of recovery.

**44. The Law of Diminishing Returns for Labor and Capital.**—In discussing the part which land and natural forces play in production it was pointed out that after a certain point has been passed in their utilization, they yield diminishing returns to human industry. A similar law of diminishing returns applies to the other factors in production, labor and capital. To understand the operation of this law in its simplest form, consider the situation of colonists in a new country where land of the best quality is superabundant, but both labor and capital are scarce. Under these circumstances land will be practically free to anyone who will cultivate it. The colonists

will first supply themselves with those forms of capital that are most urgently required—building and agricultural tools and implements of different sorts, boats, nets, guns, etc. For a time new implements of these various kinds will be so important as aids to further production that no law of diminishing returns will manifest itself. If the working population remains stationary, however, and it continues to add to its equipment of capital goods, *without altering in any important respect its methods of production*, after a certain point has been passed additional capital goods will add less than proportionate returns to the combined products of land, labor and capital. This is merely another way of saying that after each worker has a fairly complete equipment of tools and implements, duplicate tools of some sorts and more refined implements of others will add to the product less in proportion to their cost than did the tools and implements first acquired. If tools and implements continued to be added to the equipment of our assumed colony and *there was still no important change in methods of production*, a point would obviously be reached at length where every worker would have every aid to efficient production which he could possibly use and additional capital goods would render no service whatever to production. In actual life the law of diminishing returns is never likely to be pressed to this extreme limit, because in practice the supply of capital will probably never be increased to the point at which every worker has all the capital goods that can be utilized in connection with his labor and because increasing capital itself brings about the changes in methods of production, such as the substitution of power machines for hand tools, that are assumed to be absent. The fixed force of workers in the assumed industrial colony is analogous to a limited supply of land. In each case the addition of successive increments of capital adds to the size of the product, but, after a certain point has been passed,

the addition is only at a diminishing rate. The invention of new and more efficient forms of capital goods may postpone the period when the law of diminishing returns will begin to operate as regards either land or labor, but this in no wise lessens its importance as one of the far-reaching tendencies of which economics must take account.

That the same law applies to capital becomes evident when it is considered what would result if its supply were fixed while successive additions were being made to the working population. With every increase in the number of workmen, it would be necessary to utilize the available tools, machines, etc., more intensively. For a time this might be done without any tendency toward diminishing returns, but this could not be the case indefinitely. Sooner or later, as bare-handed workmen continued to be added, the fixed fund of capital would show diminishing returns just as did the fixed labor force when the conditions were reversed.

Diminishing returns must after a time result from either situation because of the general principle that the most effective co-operation between labor and capital is only realized when they stand in the right quantitative relation to each other. If after this relation has been established capital goods increase while the number of workmen remains fixed, or workmen increase while capital goods remain unchanged, the co-operation between them must be rendered less effective. If both factors increase together there will be no occasion for any reduction in the return so long as new land equal in quality to the old is available. It is therefore not the increase in the expanding factor alone that causes the diminution, but that increase coupled with the lack of response on the part of the other factor.

**45. Methods of Accumulating Capital.**—The only method by which an isolated producer can acquire new capital is by applying his own efforts to its creation. He must *produce* it as well as *save* it. In industrial society

the production of capital goods is effected like the production of consumable goods usually through the agency of business managers who produce for the market. The "saving" which inspires this production is performed by a different set of people conveniently designated as capitalists. A few illustrations will serve to show how the savings of capitalists help to bring capital goods into existence:

(1) A farmer who wishes to enlarge his barn saves part of the money he receives for his crop and uses it to buy lumber and to hire masons and carpenters to make the desired improvement. In this case by buying lumber he encourages the production of more lumber, or virtually hires lumbermen, sawmill hands, etc., to produce this kind of capital good, just as he subsequently hires men to convert it into a new wing to his barn. He turns over to others his command over society's wealth, which they use to gratify their wants. In return he receives the addition to his barn, a new capital good added to society's productive equipment.

(2) Very often the farmer who wants a larger barn is unwilling or unable to save enough to pay for it himself. If he is a man of enterprise he is not likely to be deterred by this circumstance from taking steps to obtain it. Having a valuable farm to pledge as security, he is in a favorable position to borrow. He may apply to a well-to-do neighbor who has saved the money needed out of his income and is looking for a chance to invest it. In this case the neighbor does the saving and thereby makes possible the building of the addition; the farmer decides how the saved income shall be invested in a concrete form of capital, taking all the risk of the venture and insuring the lender against loss by pledging, or mortgaging, his farm. The actual creation of the addition results as before from the labor of woodchoppers, mill hands and carpenters, who are paid for their services as they render them.

(3) Instead of applying to a neighbor the modern farmer who wishes to borrow money is more likely to apply to a bank, an institution which receives on deposit individual savings and lends them, together with its own capital and credit, to customers. In this third and most typical case, the saving of income is performed by the depositors of the bank, who know nothing about the ultimate disposition of their savings. The lending is performed by trained men who give much of their time and thought to this business, the bank officers, and the investing or conversion of the purchasing power into capital goods is done as before by the farmer.

In these ways and in others too similar to require separate description the accumulation of capital goods results from saving. Not all saving, however, leads to an increase of capital. The deposits in a bank may be loaned to someone who wishes to spend them for consumable goods. In such a case, what depositors abstain from spending, borrowers spend, and the community's stock of capital remains as it was before. In order to cause an increase in capital, saving must be supplemented by investing, unless, indeed, it takes the form of hoarding, which is unusual in modern communities.

In the above illustrations "money" or "income" is spoken of as the thing "saved." Money is, of course, merely the medium by means of which control over one kind of wealth which the individual does not want is exchanged for control over another kind which he does want. What is really saved in every case is the capital goods themselves which are brought into existence directly or indirectly by the investment. Thus in the examples given the addition to the barn is saved and added to society's capital equipment.

Often investment is thought of, especially in cities, as buying real estate, or stocks or bonds. Such purchases are investments from the point of view of the individual,

but to the community as a whole they represent simply transfers of ownership over capital goods already in existence. The investment proper appears when the purchasing power exchanged for stocks or bonds is used for the development of some new or for the better equipment of some old enterprise. Just as money deposited in a bank may fail to lead to any net addition to capital, so money invested in stocks or bonds may finally be spent by the previous owners of these securities for consumable goods and leave no trace behind.

**46. Different Varieties of Capital Goods.**—Capital goods have been defined as products of past industry used in the present, as means, not to the direct gratification of wants (consumption goods), but to further production. They include all the *intermediate products* which figure in roundabout or capitalistic production. The principal varieties of capital goods are:

- (1) Permanent improvements in the physical environment, in the form of drainage systems, canal excavations, tunnels, roadbeds, etc.
- (2) Buildings of all kinds except those serving no industrial purpose.
- (3) The rolling stock of railways, vehicles of all kinds, etc., not used merely for pleasure.
- (4) Tools and machinery.
- (5) Farm and draft animals.
- (6) Seed, raw materials and partially finished goods in process of production.
- (7) Finished goods in the hands of dealers.
- (8) Money.

In connection with "permanent improvements" a difficulty is encountered that has caused no little confusion. Land as a gift of nature is not regarded as a capital good. But permanent improvements in land become for practical purposes portions of the land itself. Thus in old countries most land is partly a gift of nature and

partly a capital good and it is often impossible to distinguish between the two. A simple way out of this difficulty is to describe land also as a capital good, and this is done by the business community and by some economists. To the writer simplicity so secured seems bought at too high a price, since it involves a disregard of the distinction, believed to be fundamental, between man's part in production and nature's part. A better plan seems to be to accept the difficulty as inevitable and to recognize that in distinguishing between what is and what is not capital, economists have the same sort of task as confronts biologists in distinguishing between what is animal and what is vegetable. As regards most things classification in both instances is easy.

Along the same line is the temptation to include as capital goods, skill and training that have been acquired as the result of "investments in education." From one point of view such acquired aptitudes for production should be included. Their origin, so far as motives are concerned, is similar to that of other capital goods. Moreover, like other capital goods they are aids to further production. Yet economists generally decide against such inclusion because they deem it important to distinguish sharply between man and the material aids he uses in production. On the whole it seems best to adhere, in the present treatise, to this plan of classification.

Objection is sometimes made to the inclusion of "finished goods in the hands of dealers" in the list of capital goods. But this follows logically from the principle (which has already been defended) that trade is a branch of production. An important requisite to the efficiency of production is a regular and continuous ministering to the wants of consumers. Most economic goods must be forthcoming regularly from day to day or at particular periods in order to possess high utility. To secure this result the business organization of society must provide,

first, for the carrying over of stocks of goods, such as agricultural products that mature only periodically but that are needed continuously, and, second, for the carrying of sufficient supplies of goods that mature continuously, to insure a continuous stream of commodities from producers to consumers, no matter how far they may be removed from one another. Thus wheat production is efficient in proportion to the care with which the crop harvested during the summer months is handled so as to meet the community's need for bread during the entire year. All of the conveniences, such as elevators, warehouses, etc., which contribute to this end, as well as the stored wheat itself, are capital goods. In the same way if it takes, on the average, thirty days to transport bananas from the growers in Central America to consumers in American cities it is indispensable to the efficient production of this fruit that a stock equal at least to thirty days' consumption be kept regularly in transit either in the warehouses of shippers, on the ocean, in the warehouses of wholesale dealers or ripening in the shops of retail vendors. Such a stock is a part of the community's capital goods.

The last kind of capital good enumerated, "money," is too important to be dismissed with a few words and is therefore treated in separate chapters.

**47. Capitalistic Production a Modern Phenomenon.**—The development of capitalistic production to anything like its present proportions is of comparatively recent date. During the Middle Ages the capital goods used were so few and crude that each producer supplied himself with his needed equipment without great difficulty. Instead of commanding interest the accumulated wealth of the rich had often to be stored and a fee paid for its safe-keeping.

As commerce developed there was an increasing demand for capital in the form of vessels and goods with which to stock them, and merchants, like Antonio in *The Merchant*

*of Venice*, were often able to turn their accumulations to very profitable account. The use of tools and machinery in agriculture and manufacturing made little advance, however, before the period of the industrial revolution. During all these centuries the chief service of saving with a view to the future was in connection with the preservation of flocks and herds and the husbanding of the food supply and seed from one harvest to the next and from years of abundance to the lean years that were sure sooner or later to follow.

Since the beginning of the last century capitalistic production has advanced in the Western World by leaps and bounds. In place of simple hand tools and foot- and horse-power machines, complex machines driven by water, steam, electrical or gas power have come into use. These have been multiplied so rapidly that the average capital equipment of the modern producer is easily a hundredfold larger than that of the medieval workman. Enormous investments have been made also in improved transportation facilities and in buildings for the safe housing of machinery, operatives and goods. As a result of this progress in capitalistic production and of the parallel discovery and invention of new and more efficient kinds of capital goods, the productiveness of human industry has been immensely increased. A large part of this increased return goes as interest to those who allow their wealth to remain in the form of capital in preference to converting it into consumable goods for the gratification of their immediate wants. The part that remains as the wages of labor has also grown, however, so all classes have derived material benefit from the change.

Since capitalistic processes add so largely to the productiveness of industry, the development of thrift, or a willingness to forego present gratifications for the sake of the future, is an important condition to progress. What is most needed is not a general development of

thrift, for many individuals are already inclined to carry saving to the point of parsimony, but a development of it, or of the prudence and forethought on which it depends, among the working classes. Accustomed for generations to live from hand to mouth, wage-earners are only just beginning to appreciate how much the accumulation of property may contribute to their well-being. Its principal advantage for them, individually, is that it will serve to carry them over periods of unemployment without that loss in efficiency that is the most pitiful result of enforced idleness for men who have nothing to fall back upon. For the whole community the aggregate savings of a thrifty laboring population would cause a great increase in its equipment of capital goods, and a corresponding improvement in its industrial processes. On both accounts the development of providence and forethought among the masses is earnestly to be desired. Equally important are improvements in the conditions of wage-earners which will encourage them to save by rendering spending up to the full limit of their incomes less imperatively necessary.

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## CHAPTER VI

### PRODUCTION: CO-OPERATION AND BUSINESS ORGANIZATION

**48. The Importance of Co-operation of Workmen in Production.**—Important as is an individual's capacity as a condition determining his productive efficiency, the way in which he co-operates with his fellows is even more essential. Alone, a man can do little more than keep himself alive even in the most favorable environment. Working in co-operation with others he so multiplies the results of his toil that he can provide himself with comforts and luxuries as well as with necessities.

Three varieties of co-operation may be distinguished: (1) Simple co-operation, that is, the simple working together of several for the attainment of a common purpose, as when several unite to move a stone or raise a mast. (2) The division of employments, by which each gives his entire time to some one branch of production, such as farming, boat-building or shoe-making, and exchanges his products for the products of others. This is commonly described as the *simple division of labor*. It is an indirect form of co-operation in that in realizing it men work together not at the same but at different tasks, expecting to share their unlike products by means of exchange. (3) The subdivision of tasks in each employment, as when in shoemaking one makes the soles, another the uppers, another combines them, etc. This may be conveniently designated as the *complex division of labor* and is the characteristic of the factory system. As co-operation it also is indirect.

Progress in indirect co-operation, or the division of labor, depends upon the development of markets and other facilities for exchange. For example, a man cannot be a shoemaker unless shoes are in demand by people willing and able to pay for them. Much less can a shoe factory be organized, with its elaborate subdivision of tasks and large output, unless shoes can be sold at remunerative prices. From this it may be inferred that every improvement tending to widen the market for goods is favorable to a further extension of the division of labor. The truth of this conclusion is abundantly illustrated by the history of the last one hundred years.

Before the era of steam vessels and steam railways the market for most products was restricted by the high cost of transportation to limited areas near the source of supply. Each region had to produce for itself its bulkier food articles, building materials and implements, and could import from or export to other regions only those products which were light and costly. Under these circumstances the division of labor could be little practised. Country districts afforded employment to a blacksmith, a carpenter and a few other specialists. A few cities grew up where those goods which could pay the relatively high costs of transportation were manufactured. But the majority of the people were forced by the conditions to give their attention to agriculture as the only means by which they could earn a living. Steam and, more recently, electrical transportation have changed this situation. At present the cost of carriage offers no insurmountable obstacle to the shipment of even cheap and bulky articles, such as wheat and coal, half-way round the world. For most goods, in place of a merely local market, there are now general markets ranging in magnitude from the market afforded by a large city to that of the whole world. Perishable goods, services and goods for which there is only a local demand, must still be produced on a small scale to satisfy local requirements, but

the proportion of these goods to the whole mass of products is constantly diminishing. Even fruit and fresh meat have ceased to be perishable in the sense that they will not bear transportation to distant markets. Accompanying this widening of markets there has been a concentration of special industries in special localities and of business management in fewer and fewer hands. In this way full advantage has been taken of opportunities for extending the division of labor, with the result that the volume of goods produced has been enormously increased.

**49. Qualities Necessary to Effective Co-operation.—** Capacity to co-operate depends upon certain well-defined qualities as much as does individual capacity to produce. Of these qualities the principal are: (1) honesty, (2), steadiness, (3) a spirit of conciliation, (4) ready obedience to superiors and (5) organizing ability. The first four are necessary to the mass of men and will be considered here, the last is necessary chiefly to those who assume the task of industrial leadership and will be considered in a subsequent section.

Honesty is indispensable to mutual trust, and co-operation cannot be carried far unless men trust one another. Steadiness is necessary, because without it a complex division of labor would be wasteful rather than economical. When tasks are subdivided the performance of each successive one depends upon the performance of the preceding. Unless all or nearly all the workmen in a factory are present at the same hours each day the whole process is disturbed. A spirit of conciliation is necessary because working together involves being together, and this entails constant friction unless each is willing to make concessions. Finally, ready obedience to superiors is essential to the success of a complex division of labor, because this involves planning by one set of people and execution by another.

These qualities are fostered by the very division of labor to which they are necessary. In other words, those peoples

who have been accustomed to the division of labor longest have them most highly developed, while those who have only known isolated production are usually lacking in some if not in all of them. From this it results that the introduction of a division of labor into a new region is particularly difficult, while its extension after it has once been established becomes increasingly easy. The disciplinary value of a complex division of labor is clearly shown by the contrast between an industrial and an agricultural population. The former is steadier and more social, while the latter is more independent and self-reliant.

50. **The Advantages of Co-operation.**—The three forms of co-operation that have been described assist production in a variety of ways, of which the principal are as follows:

(1) Men working together, as in the building of the pyramids, can do things which men working singly could not possibly do.

(2) By simplifying the work of each man, a division of labor shortens the time needed to master a trade. In place of the seven years' apprenticeship once necessary, modern methods of production call for but a few months' special training for most positions.

(3) The division of labor offers a varied field for industrial activity and thus enables each man with special aptitude or talent to devote his entire time to the work for which he is best fitted.

(4) By reducing the labor of each man to a few simple motions the complex division of labor is favorable to the acquisition of great dexterity. Hand and eye come to act almost automatically and with a quickness and accuracy unattainable by a man constantly varying his task.

(5) The same simplification and concentration of effort are favorable to the progress of invention. When work is so subdivided that each hand makes but two or three simple motions, the time is ripe for the invention of a machine to take the place of labor. Thus the goal towards which the

division of labor is ever tending is the invention of labor-saving machinery.

(6) Co-operation permits the most economical use of land and natural forces. Each section may be devoted to the production of that particular good for which it is best fitted just as each man may devote his time to his chosen specialty. This is called the *territorial division of labor* and is increasingly important as improvements are made in methods of transporting goods from the place of production to that of consumption.

51. **The Disadvantages of Co-operation.**—Against these advantages of co-operation must be weighed one decided disadvantage. Specialization is narrowing. If it requires a man to work long hours with his muscles it is likely to cut him off from opportunities to develop his mind. On the other hand, if it limits him to an intellectual pursuit it is likely to deprive him of the vigorous exercise needed by his muscular system. Specialization is inimical to that all-round development of character and capacity which is the natural consequence of varied interests and varied pursuits. Carried to excess it unfits men for the enjoyment of that very wealth which it helps them in such large measure to secure.

In giving full weight to this disadvantage it must not be overlooked that co-operation, especially as it is developed in connection with the factory system, serves to bring specialists together and give them the benefit of that social intercourse which the isolated producer so sadly misses. Those who work in factories describe the social aspects of their labor as in large measure compensating them for the monotony of their simple tasks. If increased leisure could be added to the interchange of ideas which the factory permits, the evils of specialization would be reduced to a minimum.

52. **Illustrations of the Advantages of Co-operation.**—It is not easy to show in a statistical way how much the

world owes to progress in co-operation and the division of labor. An important incident of this progress has been, as already suggested, the invention of machinery to take the place of specialized workers, and in those cases where the division of labor has been carried furthest machinery now plays such a large part that it is impossible to decide what share of the productive results should be credited, historically, to each. One of the best ways to get an impression of the industrial results of the division of labor is to compare the work of a hand shoemaker, which may still be observed in many parts of the United States, with that performed in a well-organized shoe factory. According to an investigation made by the United States Bureau of Labor, the number of distinct processes into which the manufacture of men's brogan shoes is now divided is eighty-four. Many of these are performed by automatic machines. It is calculated that the McKay machine for attaching the soles of shoes to the uppers turns out in one hour and thirty-eight minutes one hundred pairs, which it would take ninety-eight hours to sew, and twenty-five hours even to peg, by hand. From 1885 to 1895 the efficiency of labor is said to have been multiplied five-fold in the shoe industry in the United States through the introduction of a division of labor and of improved machinery.

In Adam Smith's day the best illustration of the division of labor that came under his observation was that used in the manufacture of pins. He showed that through the division of labor the average product of pins to each hand employed in a pin factory was 5000 per day and contrasted this with the one crude pin a day which a single artisan might perhaps turn out if he had to do the whole work by himself. At present pins are manufactured by automatic machinery and 1,200,000 per workman per day is said to be the output of a well-equipped factory. The progress in screw making is even more remarkable. According to estimates made by the Bureau of Labor 10,000

screws are now made by an expenditure of 16.7 minutes of human labor in comparison with 1250 hours formerly required to produce the same number.

Similar examples of progress due partly to the division of labor and partly to the introduction of labor-saving machinery might be multiplied for every branch of manufacturing. The subject has been exhaustively treated in a special report issued by the Bureau of Labor \* and this may be consulted for other striking illustrations of improvement. On the whole it is not too much to say that the efficiency of labor in manufacturing has been increased many hundredfold by the abandonment of isolated production and hand processes in favor of the division of labor and machinery. In other branches of production progress has been less remarkable for the simple reason that they are less well adapted to these improvements.

**53. Business Organization and the Function of the Entrepreneur.**—Business organization has been carried to such a point in modern communities that few persons now produce for themselves the things that they require. Even in country districts the typical farmer is no longer the pioneer raising food and materials for his family, but the producer for the market who looks to the market for most of the things that he needs. We have called this development “progress in co-operation,” but it is evident that the resulting co-operation is not deliberately planned by those who participate in it. It arises spontaneously as each one follows his own interest without thought of his neighbor. As a country district emerges from the pioneer stage, different men discover that it pays them better to be specialists and to produce for the market than to produce for themselves. Thus a simple division of labor is introduced to supplement the simple co-operation that prevails even among animals. The complex division of labor follows in due course because of its superior effectiveness, and in this

\* Report of 1898 on Hand and Machine Labor.

way, as time goes on, co-operative production displaces isolated and individual production.\*

The success of industrial co-operation depends in large measure upon the ability of business managers or *entrepreneurs*. These are the men who act as directors of industrial undertakings. They decide what shall be produced and how it shall be produced. They hire workmen and determine what they shall do. They borrow money and convert it into particular forms of capital goods or exchange it for land. Finally, they assume the risks of the businesses in which they are engaged, undertaking to pay wages, interest and rent whether or not the results are satisfactory.

The qualities needed by an entrepreneur are not unlike those required by a military leader. He must have energy and enterprise. He must be a good judge of men and of conditions. He must have confidence in himself and be able to inspire confidence and a feeling of loyalty in others. Above all he must have organizing ability, that is, the faculty of combining men and things in the most effective way for the realization of a desired result. A community that is well supplied with leaders having these qualities is sure to have its industrial forces turned to good account. Its workmen will be assigned the special tasks for which they are best fitted so far as conditions permit, and its capital will take the form of the capital goods that are found to be most efficient. Invention and discovery will be highly appreciated and progress in the technique of production will be rapid. Even a few capable entrepreneurs may secure these important results for a community. They serve the public not only by organizing efficiently the special branches of industry which they direct, but by setting standards which less able men are only too glad to

\* To distinguish this spontaneous or competitive co-operation from the copartnership of workmen in the management of industrial enterprises, to which the term "co-operation" is frequently applied, the latter is referred to in this book as "labor copartnership."

copy. Thus it is not uncommon in the United States to find whole towns which are literally "run" by one or two men. The same men acting in combination are coming more and more to control the important industries of the country, and this gives them an influence for good or evil that can scarcely be exaggerated. The greater the power of these directors of the community's industries, the greater the importance that must be ascribed to personal qualities in determining the direction of industrial development. This importance of personality as a factor in modern business was strikingly illustrated in the spring of 1900 when several English investors took out insurance policies on the life of America's leading financier, to protect themselves in case the latter's death intervened to prevent the consummation of certain gigantic financial projects of which he was the originator and guiding spirit.

**54. Different Forms of Business Organization.**—The simplest form of business organization is that in which a *single entrepreneur* controls the whole enterprise. He may do everything for himself and use only his own capital, as do usually doctors, lawyers, cobblers, etc., or he may employ hired workmen and borrowed capital. In the United States many businesses employing thousands of men and using millions of capital have grown up under the responsible management of single individuals. The advantages of such a one-man organization are obvious. Its disadvantages are that one man, however able, cannot be equally competent to direct all departments of a large and complex business and that the capital that one man can command is small in comparison with that which may be secured by a number of men associated together.

These disadvantages are partially overcome in a second form of business organization, the *partnership*. A partnership is an association of two or more individuals who are jointly and severally responsible for the management of the enterprise in which they are embarked. On forming

a partnership the partners become individually liable for all of the obligations of the firm and agree that any contract entered into by either partner in the firm's name shall be binding on all. This form of organization is well fitted for businesses calling for a diversity of talents and requiring no more capital than a small number of men may command. Until the last fifty years it was the common form of organization for businesses that had outgrown individual control. Recently it has given way quite largely to the *corporation*, the third important form of business organization.

A corporation is an association of individuals known as stockholders who are empowered by legal charter to elect annually a board of directors and through it to act as one person in the conduct of the specified business. Corporations enjoy, usually, perpetual life. They may sue or be sued, incur debts, enter into contracts—in short, do everything necessary to the conduct of business, within the limits prescribed by their charters of incorporation, as though they were individuals. The liability of the stockholders in corporations is limited usually in the United States to the capital actually paid in or pledged in return for stock. Sometimes, as in the case of the national banks, stockholders are further liable for a sum equal to the par value of the stock they own, but this liability is never unlimited as is that of legally constituted partners.\*

**55. Advantages and Disadvantages of the Corporate Form of Organization.**—The advantages of the corporation for business purposes are: (1) It continues even though its promoters die or retire from business. (2) It draws its capital in large or small quantities from widely

\* Limited-liability partnerships are not included in the above description because they have become an unusual type. In the United States each state and territory exercises the privilege of incorporating companies and prescribing the regulations with which they must comply. The description given applies to the ordinary business corporation.

different sources and may command any amount, however great, for an enterprise in which investors have confidence. (3) It may profit by the intermittent attention of directors whose ability and experience make their services of the greatest value, but who could not be induced to assume the risks incidental to partnerships. (4) It is flexible, permitting a complete change of management whenever the stockholders deem this expedient, through the simple process of an election at an annual meeting.

These considerations and others of less importance have caused the corporate form of organization to be adopted for a great variety of enterprises. It is probably within the truth to say that one-half of the business of the United States is now controlled by corporations and there is every indication that the proportion is increasing. This makes important the recognition of certain drawbacks attaching to the corporate form of organization. Chief among these is the fact that responsibility for the management of corporations is diffused. In one-man businesses and partnerships the men who organize and manage an enterprise are the ones most vitally interested in its success. In corporations the stockholders, who usually furnish all or the greater part of the capital required and have to bear the loss if things go wrong, entrust their interests to the board of directors. The board of directors in turn delegates the actual management of the business to a salaried president or manager who may not, and often does not, have any further interest in the business than that his reputation depends upon the honesty and wisdom with which he manages it. The entrepreneur function is thus divided in the corporation between three parties no one of whom has the same vital interest in the business that the single entrepreneur or partner feels in businesses conducted on the other plans. Moreover, few directors or managers have not, at times, private interests in conflict with the corporate interests they are supposed to promote. This diffusion of re-

sponsibility and of interest causes corporate management to be often wasteful and sometimes corrupt. The salaries paid are frequently higher than they need be to secure the required grade of labor, appointments are often determined by personal rather than by business considerations and inflated prices are sometimes paid for materials in consequence of the fact that particular directors are interested in their production. More common than these clear violations of trust are misrepresentations in regard to the affairs of the corporation intended to influence the stock market and to enable those interested to carry through some deal for their own benefit.

Another abuse is connected with the borrowing power of corporations. When this power is used to secure money by means of a sale of bonds the law gives to bondholders no voice in the management of the corporation so long as their interest is paid and the principal is not defaulted. The larger the proportion of the capital required for any enterprise that is secured through the sale of bonds, the smaller is the interest in the business of the stockholders, who nevertheless continue to control it. It has often happened in connection with railway corporations in the United States that the entire capital has been secured by selling bonds and that the stock has represented simply a bonus paid to the promoters of the company. This is a situation fraught with danger, as American experience has abundantly proved. To give a fictitious value to their stock, promoters are only too apt to pay dividends out of earnings that should be expended for renewals and replacements. Before the corporation is reduced to bankruptcy they can usually sell their holdings to unsuspecting investors and retire, leaving to the latter the task of reorganizing the business.

A third set of evils has reference to the general or public interest in corporations. Individuals in their pursuit of gain are controlled by the moral standards of their business associates. Corporations have no moral standards.

Their directors are willing to wink at practices on the part of the officials they appoint to which they would not themselves stoop. Corporate officials, moreover, do not hesitate to do things in the name and under cover of their corporations which they would be ashamed to perform openly for themselves. In the United States corporations have been guilty of buying legislatures, corrupting judges, bribing juries, entering into agreements with political parties insuring them certain privileges in return for campaign contributions and in fact of every sin in the political calendar.

It is owing largely to them that the tone not only of business but of political morality is so much below the standards of private life. This third group of evils is at the basis of the "corporation problem." As this is a phase of the more important "trust problem" its fuller discussion is postponed to Chapter XXII.

The stockholders of corporations might from what has been said be expected to manifest an active interest in their management, and this is true of large stockholders who are likely to be at the same time directors. Small stockholders, however, are very often surprisingly indifferent so long as dividends are regularly paid and nothing occurs to excite their suspicion that the business is being improperly managed. When a corporate enterprise is first launched its stock is likely to be taken in large blocks by the men most interested in it and most sanguine of its success. Some shares may go to the general public, but usually a controlling interest is retained by the men who have most to lose if the business fails. During the first year or two the stockholders and the active directors are thus apt to be identical or so nearly so that risk and responsibility go together. Among the directors there is likely to be a guiding spirit who performs all the essential functions of the entrepreneur except that others share with him the risks of the enterprise and the minor details of management. After a corporation is firmly established on a paying basis the same conditions

may and often do continue, but it is quite as likely that the organizers will gradually dispose of their stock to investors so that they may have their capital free for the promotion of other enterprises. When this occurs the stock is gradually diffused throughout the community until the largest holdings represent far from a majority of the outstanding shares and the control of the corporation has virtually passed out of the hands of the few into the hands of the many. Under these conditions the control of the business depends not on the actual investment of capital in it, but on control over the votes of widely scattered and uninformed stockholders. The situation is still favorable to the ascendancy of some one man of great organizing ability and much depends upon the moral qualities that such a man brings to his position. If he is self-seeking and unscrupulous he may pack the board of directors with followers of the same stamp and deliberately wreck the enterprise for his own aggrandizement. If, on the other hand, he is honestly anxious to promote the interests of the company, and brings ability to his task, he will put in as directors the best men he can secure and build up an organization whose efficiency will compare favorably with that of businesses owned and controlled by single entrepreneurs or partners. At each stage in corporate development the tendency thus appears to be toward control by one man or a small group of men, however widely the stock may be distributed. Successful corporations are as much one-man or few-men enterprises, as regards their actual management, as firms composed of partners. The chief difference is that corporate entrepreneurs incur but a small part of the actual risk of loss that partners incur and must be held to the efficient performance of their duties, if at all, by higher standards of honesty and faithfulness to trust than are demanded in the latter form of organization. Notwithstanding the many abuses connected with corporate finance in the United States the rapid extension of the corporate form of

organization is believed to be proof of parallel progress in business morality. If directors of corporations were not as a rule honest and upright men, few large corporations would be formed, for the simple reason that few people would be willing to invest their capital in such hazardous enterprises.

**56. The Advantages of Large-scale Production.**—Different branches of production vary greatly as regards the size of the business unit which is best adapted to them. In farming in the United States the small farm of from twenty to two hundred acres seems to be displacing the larger farm of five hundred acres and upwards. In manufacturing and transportation, on the contrary, large-scale production is becoming more and more the rule. The principal merit of small-scale production is the undivided attention which it permits the entrepreneur to give to all of the details of the business. This is particularly important in farming and in artistic and professional work, where continuous attention to matters of detail is the chief requisite to success. It is less important in manufacturing and transportation because the operations required in these businesses can be reduced to routine and an efficient check on the work of employees can be maintained by occasional attention to what they are doing. In these industries a great variety of contrivances which compel men to register the results of their work as they perform it have been invented, and these act as mechanical substitutes for "the master's eye." Also where automatic machinery is used, the pace is set for all operatives and they have to fall in with it or incur the risk of being discharged for incompetence. Finally, the system of paying wages in proportion to the pieces turned out, or the *piece-wage system*, makes the interest of the employee as great as that of the employer in the efficiency of his work.

Large-scale producers enjoy besides important positive advantages: (1) As was pointed out in connection with

the discussion of partnerships and corporations, they can command a variety of different talents and place them in those departments for which they are best fitted. This is another way of saying that they are able to apply the division of labor even to the executive branch of the business and to reap all of the advantages that result from it. For a simple business such as farming, which, because of its periodic character, offers continuous employment to no specialists, this consideration is of slight moment. For manufacturing and transporting industries, however, which have several departments going all of the time, it is very important.

(2) Large-scale production permits the economical utilization of expensive machinery and equipment which the small-scale producer cannot afford, or which it would not pay him to have because his small business would not keep it continuously employed. Farmers surmount this difficulty in a measure by owning expensive machines jointly and sending them round from one farm to another as they are required. Manufacturers can hardly do this because their machinery is for the most part stationary. At best it is a poor substitute for undivided ownership and control, as all farmers who have tried it testify.

The above consideration applies with special force to the transporting industries. Canal and railroad companies require costly excavations and roadbeds. In these a large part of their capital is invested, and interest on this capital and outlays connected with the maintenance of way constitute a large element in their expenses. The amount of traffic that may pass through a canal or over a railroad is limited only by the frequency with which boats or cars may safely be sent after one another. Moreover temperature changes, storms, etc., determine the expense of keeping the system in repair much more than the volume of business done. It results from these facts that the expense—as regards capital account—per passenger or per

ton of freight carried diminishes steadily as the volume of business grows. The original cost and the outlay for maintenance of way appear as fixed charges and the larger the business done the smaller is the expense per unit as regards these items. If the running expenses per unit are fairly constant, as they are apt to be for a well-managed canal or railroad, the large-scale transportation company has here a marked advantage over its smaller competitor and an advantage which grows as the business grows until the traffic has become so large that it cannot be handled without numerous accidents. In the light of these two advantages concentration in the transporting industries and in many branches of manufacturing seems a perfectly natural and economically desirable tendency.

(3) A third advantage of the large-scale producer is in connection with the purchase of materials and the sale of products. Sellers of materials are willing often to make concessions to large buyers, and in marketing products the large seller may arrange his advertising more economically than his small competitor.

(4) Large-scale producers can make a better use of by-products. In the mineral oil and the meat-packing industries large-scale production has made possible the utilization of waste products to an extent undreamed of when these businesses were carried on by small firms, and to the advantage of the whole community.

(5) A fifth advantage is found in the large expenditures which a large-scale producer is able to make on experiments looking to the improvement of the technique of production. In businesses which are changing their methods continuously, to be the first to introduce a valuable innovation means often the difference between success and failure. Many of the manufacturing establishments which have been most successful in the United States in recent years, such as the Carnegie Steel Company of Pittsburg, have owed their success in no small degree to their lavish

expenditures on industrial experiments and for the installation of new machinery as soon as its superiority to that in use has been demonstrated.

Large-scale production, it must be clearly understood, is by no means synonymous with monopoly, or exclusive control, of a given branch of production. Nevertheless, in those cases in which the advantages of large-scale production persist, no matter how large the producing unit becomes, monopoly is the goal towards which the business is developing and which it will ultimately attain. This suggests a threefold classification of industrial enterprises: (1) businesses in which the small-scale producer has the advantage, as in farming in the United States; (2) businesses in which large-scale production is more economical up to a certain point, beyond which the loss in efficiency resulting from the absence of the direct and personal supervision of the entrepreneur more than offsets the gains from further concentration; (3) monopolies.

**57. The Representative Firm.**—As special chapters are devoted to monopolies it will not be advisable to discuss them further at this point. Although numerous and perhaps multiplying in the United States, monopolies as yet dominate but a small part of the vast field of production. Farming, most branches of mining, lumbering, fishing, manufacturing, trade, banking and many branches of the transporting industries are still controlled more or less completely by competition. In each of these industries at any given time there is a certain size of business plant which under average management is most conducive to economical production. This may be designated as *the representative firm*. As methods of production change, the size of the representative firm of course changes also, but such changes are gradual and may without serious error be overlooked in connection with the consideration of the broader problems of economics.

The representative firms in each branch of business may,

as Professor Marshall has suggested, be compared to the full-grown trees of a primeval forest. Around them and competing with them for customers are overgrown firms that are falling into decay and new firms that are gradually making a place for themselves, just as in the primeval forest overgrown and decaying trees and aspiring young saplings struggle with their full-grown brothers for a share of earth and sunlight. And just as the trees of full growth are the dominant feature in a primeval forest, so representative firms dominate in business.

In the next chapter we pass from production to distribution. Both parts of economics deal with the same phenomena, that is, with wealth creation through the application of labor aided by capital to land, but while in production the creation is the important thing, in distribution the motives which control men and the relation of the parts which different factors play in this creation are important because upon them depends the division, or sharing, of the wealth created.

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## CHAPTER VII

### PRODUCTION AND DISTRIBUTION

**58. The Nature of Distribution.**—In the preceding chapters the products of industry have been referred to sometimes as commodities and services, sometimes as economic goods and sometimes as valuable utilities. It is these same commodities and services, goods or utilities, that are the objects of distribution. If the identical goods produced were directly and immediately divided among those who take part in their production, the matter would be comparatively simple. But such production "on shares" belongs to a primitive stage of industrial development. Under modern conditions goods are produced for sale, and it is the money or purchasing power received for them, rather than the goods themselves, that is the first concern of distribution. Consider, for example, the case of some typical business establishment, like a shoe factory. The manager of such an enterprise would never think of compensating his employees or others who have claims upon him with pairs of shoes, the products of his business. Instead, he sells his shoes as they are produced for the best prices obtainable, and the money or purchasing power he receives for them is what he really divides among those who have claims upon the product.

In determining what the product has been, and, therefore, what is the money return to be divided, it must be remembered that not all the new commodities and services produced during a year are to be credited to the year's industry. In connection with nearly every branch of production there is a destruction of commodities and

services for which full allowance must be made in the gross product before the *net* product, or what has really been added to the wealth of the world, can be calculated. The farmer uses up seed, fertilizers, tools and farm buildings. The manufacturer destroys raw materials, fuel, machinery and factories. Even the banker and professional man use up stationery and office furniture. These losses and wastes, which are a necessary part of all production, must be met by the deduction from the gross returns of the year's business of what we may call a *replacement fund*. Through this fund raw materials and partially finished products, destroyed or altered in form, are replaced; buildings, machines, tools and other things subject to wear and tear are repaired and renewed; and, finally, provision is made for substituting for worn-out machines and other equipment, new capital goods of at least equal efficiency. The deduction to be made from the gross product for the replacement fund is calculated as a sum of money or purchasing power. In our shoe factory, for example, the capital goods used up in the process of production cannot be replaced literally out of the product. It is not shoes that are needed, but leather, tools, repairs on buildings and machinery, etc. The expense of making these replacements and repairs is calculated in money and deducted from the gross money return from the year's business. The net money return which is left, and which we shall designate in future as the *money income*, is the first object of the distributive process.

But if money or purchasing power is the first thing distributed, it is merely as a means to an end. Those who take part in production desire primarily not money, but want-gratifying goods. To determine what is really distributed, we must inquire what is bought with the money income, for this is the *real income*. Thus a complete account of distribution must supplement an explanation of the sharing of the money income among those who have claims

on the product with a description of the conversion of this money income into consumable goods. In the following chapters on Distribution attention is directed chiefly to the circumstances which determine the sharing of the money income. Some of the conditions which affect the conversion of the money income into real income were considered in Chapter III. Others receive attention in connection with the discussion of money in Chapters XIV., XV. and XVI.

**59. Connection between Prices and the Money Income to be Distributed.**—Since distribution is concerned first with the money returns of industry, we must begin our discussion by recalling the principles which determine the prices at which goods are sold. For the aggregate price received for the product constitutes the gross money return of a business and this less the deduction for the replacement fund constitutes the money income. As explained in Chapter III. the prices at which goods sell correspond closely to the money equivalents of their marginal utilities to marginal buyers, that is, to the buyers who are just induced to purchase a part of the available supply. If the available supply is small the prices will be relatively high, marginal buyers being those to whom the goods have high marginal utilities or who have large incomes to spend. The larger the supply the lower the price must be, since less eager or less wealthy buyers must be appealed to to effect the sale of the larger stock. Under all circumstances, however, one determinant of the prices of goods is the money equivalent of their marginal utilities to marginal buyers. The money income derived from a business, determined, as already explained, by the prices received for the products, is, therefore, determined in turn by the marginal utilities, valued in money, of these products to marginal buyers. In other words, one of the first principles in regard to distribution to be remembered is that *the money income to be distributed is*

*determined by the want scales of consumers coupled with the money or purchasing power which they happen to command.* As this money or purchasing power in the hands of consumers is itself for the most part money income previously received, production, distribution and consumption mutually determine one another.

But this is only one side of the matter. On the side of production, except when monopoly intervenes and supplies are artificially controlled, the stress of competition causes the supplies of goods to be increased (or decreased) until their prices correspond to the expenses of production of marginal sellers. These expenses are not, however, independent of the prices they help to determine. They are themselves derived from these prices. But they serve to equalize prices by acting as regulators of the supplies of competitively produced goods. For example, the wages of labor, which are an important item among the expenses of production, are derived from the prices paid for the goods which labor helps to produce. Labor in and for itself is not valuable. It is only valuable because through it valuable goods are produced. Labor which did not, or was not expected to, result in valuable goods would be worth nothing. But since normally labor does result in valuable products, a day's labor comes to be recognized as commanding a certain wage. This current rate of wages, itself derived from the prices received for the products of labor, is an item of expense to anyone who wishes to start a new branch of production. Unless the expected products promise prices sufficient to cover this and other items of expense the new line of production will not be undertaken. Thus the current rate of wages stands as a barrier to the extension of production in this direction or in that, and in this way controls the supplies of goods that are produced. It serves to equalize supplies by checking production whenever it threatens to be unprofitable. The tendency thus is for production to be

extended in each direction up to the limit set by the expenses of production to marginal producers. In this way the expenses of production figure as an important secondary factor in the distributive process in connection with competitively produced goods.

**60. Elements in the Expenses of Production.**—As used in these pages, the term, *expenses of production*, includes every item of outlay which producers must normally and regularly incur to put goods on the market and effect their sale and also such compensation as producers normally and regularly require to induce them to continue to serve industrial society as entrepreneurs. These items are as follows: (1) Outlays for materials, wear and tear of buildings and machinery, etc., or the replacement fund; (2) premiums paid for the insurance of capital goods; (3) interest for the use of capital; (4) wages to workers of all grades; (5) rent of land and natural powers used in production; (6) taxes; (7) minimum profits to the entrepreneur to remunerate him for his own time and trouble.

The first item calls for no further explanation. As a matter of course every business man deducts a replacement fund from the price he receives for his products. Premiums for insurance, looked at broadly, are merely additional expenses for the replacement of capital and may properly be included in this first item.

The item of interest for the use of capital is calculated at a certain rate per cent per annum for the capital employed. Thus if a business ties up on the average throughout the year capital goods worth \$10,000 and the current rate of interest is five per cent, \$500 should be charged as expense for interest. This item appears whether in the particular business considered borrowed capital or capital belonging to the firm is used. If the former is the case the expense for interest is an actual outlay, if the latter it is a virtual outlay since using the

capital in the business prevents loaning it at the current rate to some other entrepreneur.

The propriety of naming wages as one of the items of expense is obvious. As the term is here used it includes all payments for labor, whether wages in the ordinary sense or salaries. It is convenient to go even further and to include in it the seventh item enumerated above, the minimum profit received by the entrepreneur, on the ground that the latter is merely a *wages of management* and as appropriately included in wages, although paid by the entrepreneur to himself, as is the interest charged for the use of a firm's own capital included in interest. The amount that should be charged as wages of management or minimum profit is, as explained below, what the entrepreneur could obtain for his services if he worked for wages or for a salary.

The rent of land or natural power was spoken of in Chapter IV. as a profit over and above the expenses of production. To the farmer cultivating his own land it is an item of return rather than an outlay; but the same reasons that cause economists to include an allowance for interest on a firm's own capital and for wages to the entrepreneur himself among the expenses of production lead them to treat rent also as an expense of production. To the entrepreneur using leased land rent is an expense. If instead he uses land which he himself owns it is virtually an expense because by using it he loses the rent he might have obtained had he leased it to another.

Taxes are another irregular charge from which many producers are exempt. Their amount depends on the arbitrary decision of the taxing power and for this reason as well as because they do not affect at all many branches of production we may leave them out of account in our treatment of distribution.

Summing up the results of the preceding discussion we see that the items in the expense of production may be

reduced to four: (1) expense for replacement or maintenance of capital goods, (2) interest, (3) wages, (4) rent.

**61. The Wages of Management.**—Among the elements in the expense of production the item that is most likely to cause confusion is the minimum profit of the entrepreneur or the wages of management. An explanation, at this point, of the reasons for merging this item with wages in general may prevent possible misunderstanding. As business is now organized in progressive countries there is a demand for hired workers possessing every variety of ability. From the forty cents a day paid to wage-earners in certain occupations in the United States to the \$50,000 or more a year paid to the heads of various banking, insurance, railway and industrial corporations is a long step; but these and all intermediate earnings of hired workers are to economic analysis simply wages paid for services rendered. Nearly, if not quite, as comprehensive as the wages scale is the scale of entrepreneurs' earnings or wages of management. All but the very lowest groups of hired workers have among them individuals who may, if they choose, set up in business for themselves. Even sweat-shop employees have as an alternative occupation peddling, in which they assume the risks of loss. Agricultural workers may become homesteaders or, in the more settled portions of the country, may rent small plots of land to cultivate at their own risk. Similar but more numerous alternatives are open to the higher groups up to the highly paid managers of large corporate enterprises, any one of whom could, with his superior executive ability, direct successfully a number of different businesses.

When a man who is or might be earning a certain wage or salary as an employee, chooses instead to figure as an independent entrepreneur, it is reasonable to assume that he expects to better his condition. He may make the change because he loves independence or because the new occupation is more congenial, but he is not apt to make it unless

he expects also to realize the same or higher earnings than in the other position open to him. The wage or salary that might be obtained is thus a minimum profit or wages of management that must be paid to the entrepreneur in order to secure his services in connection with his entrepreneur function. At any given time the members of any group of workers may be distinguished into three types: (1) those who do well as employees, but have not the enterprise to set up in business for themselves, (2) those who are planning to become entrepreneurs and are only waiting for favorable opportunities to begin, (3) those who have been entrepreneurs, but have been compelled through failure to return to the ranks of hired workers. Individuals of the first type exert little influence on the earnings of their group. They accept what industrial conditions enable them to get. Those of the second and third types, on the other hand, are important factors in determining the amount of these earnings. The former are constantly studying other industrial opportunities and through their readiness to abandon the positions which they have in order to launch out as entrepreneurs, the rate of wages for their group is prevented from falling below the earnings of entrepreneurs of the same grade. More important for our present purpose is the conduct of persons of the third type, who have resumed their posts as wage-earners because their earnings as entrepreneurs have ceased to equal even the wages that they can obtain in such positions. Their ready return to the ranks of employees prevents entrepreneurs' earnings from falling, except for brief periods, below the wage level.

The wages of management have been defined as the wages or salary which an entrepreneur might earn by working for hire. It is large or small according to the grade of labor for which the entrepreneur is fitted, and may equal only the dollar or less a day of the itinerant peddler or organ grinder or the \$100,000 a year of the salaried

manager of a billion-dollar corporation. Arguing that free competition tends to keep the earnings of entrepreneurs down to bare wages of management, does not, therefore, imply that these earnings are scanty. Bare wages for the efficient manager of a gigantic corporation constitute a princely income. It simply recognizes that wages of management are governed by the same law that controls wages generally and that for this reason they require no independent explanation.

**62. The Normal Expenses of Production.**—The expenses of producing commodities of each sort are different for different firms. For new firms just establishing business connections and not yet ready to produce on the scale that experience has shown to be most economical, expenses are high. They are high also for old firms that are overgrown or for some other reason are falling into decay. They are lowest for those firms which have attained just the size necessary for most economical production and which are managed with greatest ability.\* Among such firms those managed with average ability may conveniently be designated as *representative firms*. These firms are the *marginal sellers* of competitively produced goods whose competition serves to keep prices from deviating very far from the norms fixed by their expenses of production. The expenses of production of representative firms may, for this reason, be described as the *normal expenses of production* and the prices corresponding to them as the *normal prices*, about which, as already stated, market prices tend to oscillate.

\* Nothing is said about differences in expense due to differences in the qualities of land or natural power used because these are fully covered by the item rent. For example, if a farmer, cultivating all his land in the same way, produces on some acres larger crops than on others year after year the differences must be ascribed to differences in the land, and a proportionately larger allowance for rent must be charged against the better acres than against the poorer. This extra rent may in practice be merged in the gross rent charged for the whole farm, but it is no less important in determining how large this gross rent should be.

late. The market price cannot fall for any length of time below the standard fixed by the expenses of production to representative firms, for under such circumstances they suffer losses and proceed to curtail production until demand for the diminishing supply of the commodity brings its price back to a remunerative level. The market price cannot rise for any length of time above them because then all representative firms will be making an extra profit and some will seek to secure more of it by enlarging the volume of their production. Supply will be increased and this in time will bring the price down to the old level or force it below it. Or, looking at other effects, as the price falls below the expenses of production to representative firms decaying firms are forced into bankruptcy and new firms are so discouraged as to withdraw from the business, and in these ways supply is lessened. On the other hand, a rising price not only encourages tottering firms to keep up the struggle but induces new firms to enlarge the capacity of their plants for the double purpose of selling more at the high price and of realizing the economies of large-scale production. In these ways the supply is increased and the price is brought back to the normal.

It must be carefully noted that the above reasoning assumes not only active competition but the absence of change as regards the expenses of production per unit of product which representative firms incur. If conditions are changing so that these expenses vary constantly even the most persistent competition may fail to cause the price of the product to correspond accurately to the normal expenses of production. It would tend always toward such correspondence, but it might never attain to it. In actual practice market prices seldom do conform exactly to normal prices, and no explanation of distribution is complete which fails to make full allowance for discrepancies between the two. By reference to normal prices, as standards, however, the circumstances determining the shares in dis-

tribution can be quite as logically and more easily explained, than they could be if the tendency of competition to bring market prices to the normal were ignored. The prominence given to normal prices in these pages is thus a convenient logical device for simplifying what would otherwise be bewilderingly complex.

Normal prices for competitively produced goods just cover the expenses of their production—the allowance for the replacement of capital goods, interest, wages and rent. As a usual thing these four items of expense are incurred by the entrepreneur before production is concluded and before he knows what prices he is going to get for his products. He buys his materials, tools, machinery and other capital goods at current prices, he borrows capital to pay for them and perhaps to pay wages at current rates, he hires workmen and leases land on the terms fixed for him by general market conditions rather than on his own terms, and all of these arrangements are entered into before the product is ready for sale. It is in this contracting to pay the expenses of production before the product is ready for sale or the price to be received for it known that the principal risks of business, which it is the entrepreneur's function to incur, consist. When prices are normal the representative firm receives from its sales just enough to cover its expenses of production including an adequate wages of management. Any deviation from the normal means extra profit or unexpected loss to the entrepreneur or to stockholders, who are the risk-takers in corporate enterprises.

The market prices of goods may differ from the normal prices corresponding to the normal expenses of producing them, either because conditions are changing and competition has not yet adjusted supply to demand at the new normal price level, or because competition is itself absent and monopoly stands as a barrier to such an adjustment. In the former case we have to do with what we may call a

*competitive profit (or loss); in the latter with monopoly profit.*

63. **The Shares into Which the Money Income is Divided.**—From the point of view of production rent, wages and interest are expenses while competitive and monopoly profits are surpluses due to deviations of market prices from the normal. From the point of view of distribution all five are shares into which the money income derived from a country's industries, that is, the gross money return less the deduction required to replace and maintain the fund of capital, is divided. It is the task of the theory of distribution to explain what causes, at last analysis, determine the size of these different shares. In the following pages we have attempted to prove the thesis that competition tends to secure for each factor in production a share of the money income corresponding to what it itself produces. Every circumstance which causes market to diverge from normal prices interferes with this result and occasions profit or loss to entrepreneurs above or below their proper wages of management. The chapters on Competitive Profits and on Monopoly Profits discuss the circumstances that may cause such divergence and the shares of income to which they give rise. The chapters which follow on Rent, Wages and Interest attempt to show that each tends to be the share of the normal price corresponding to what the factor concerned contributes to production. Finally the concluding chapter on Value and Distribution recapitulates the explanation in more general terms and adds the last link in the chain of reasoning by indicating the causes that control the supplies of workmen and of capital goods.

An explanation of the causes that determine the shares into which the net product is divided is by no means a complete account of the influences which make some men rich and others poor. There are a great many circumstances that affect the distribution of property that are uneconomic

in character. For example, no one factor is more potent in deciding that some shall be rich while others are poor than the inheritance of wealth. On this topic the economist should have something to say (Section 237), but it is not a matter that can be treated profitably in a theory of distribution. In the same way the philanthropies of public-spirited citizens in endowing art galleries and other institutions for public enjoyment and instruction and the intelligent expenditures of municipalities in supplying free schools, playgrounds and parks, contribute important elements to the real incomes of the citizens of every community, but these contributions are not subject to economic law. The theory of distribution is necessarily limited to the division of the money income among those who on one ground or another have an economic claim. It must be supplemented by a study of many other factors to furnish a complete understanding of the causes of wealth and poverty.

#### REFERENCES FOR COLLATERAL READING

- \* *Clark*, Essentials of Economic Theory, Chaps. V. and VII.;
- \* *Fetter*, Principles of Economics, Chaps. VI., XXX., XLII. and XLIII.; \* *Marshall*, Principles of Economics (fifth edition), Book VI., Chaps. I. and II.; \* *Carver*, Distribution of Wealth, Chap. III.

## CHAPTER VIII

### DISTRIBUTION: COMPETITIVE PROFITS

64. **The Causes of Competitive Profits.**—The principal causes of *competitive profits*, that is, *profits in excess of the wages of management not due to some monopolistic advantage*, are the following: (1) price fluctuations, which may be confined to particular commodities or general; (2) the introduction of novelties; (3) improvements in methods of production; (4) variations in climatic or other natural conditions; (5) the exploitation of new lands and natural resources, and (6) modifications in the current rates of remuneration of other factors in production. These and other changes that are constantly occurring in progressive communities make competitive profits an important share of the money income annually distributed, notwithstanding the tendency of competition to reduce profits to the wages of management. But for these changes entrepreneurs would succeed, as they are constantly striving to, in assigning workmen and capital goods to those branches of production in which they afford the largest returns and in making in each branch of production just that combination of factors that is most economical under the given conditions. All incompetent entrepreneurs would be forced into the ranks of employees and all profits would be reduced to wages of management. This is the goal toward which competition is constantly pressing. How far it always is from attainment will be made evident as we discuss more in detail the causes of competitive profits that have been enumerated.

65. (1) Profits Due to Fluctuations in the Prices of Particular Commodities.—That fluctuations in the prices of particular commodities are one of the most common causes of profits is a fact familiar to every business man. In making their calculations for the future entrepreneurs estimate the prices they will have to pay for the materials, etc., which they must use and the prices they will receive for their products. If materials become cheaper or products dearer after they are embarked on their enterprises their profits will be larger than was expected. Dearer materials and products commanding lower prices, on the other hand, will cause a miscarriage of their plans and inflict loss upon them.

Conservative entrepreneurs try to prevent adverse price fluctuations by a variety of expedients, ranging all the way from mere verbal understandings among competitors to monopolistic combinations. Mere verbal understandings, unless supplemented by some effective means of controlling the volume of goods produced, serve to lessen the frequency of price fluctuations but not their extent. The rise or fall in price which in the absence of any agreement results from a number of slight modifications, is made, under the system of agreements, at one bound as soon as the agreement lapses or is broken and free play is again given to the pent-up forces of competition. Notwithstanding this disadvantage entrepreneurs seem to find even temporary stability preferable to the constant oscillations of a freely competitive market, and price understandings among competitors, ranging from the familiar pools of the stock market to agreements among producers of materials, such as coal and iron ore, and of agricultural products, such as fruit, are becoming more and more common phenomena.

Another expedient for minimizing price fluctuations is dealing in "futures." Entrepreneurs who wish to eliminate so far as possible the element of uncertainty from their

businesses, contract ahead both for the materials they are to use and for the sale of their products. This practice has become especially marked in the building trades and in connection with different branches of iron and steel production. Building contractors, for example, before making bids on the erection of structures, secure options at certain prices for the delivery of the materials they will require. They then make their estimates with full knowledge in regard to the cost of these materials. If their bids are accepted the only uncertainties involved in the venture attach to the accuracy of their estimates of the quantities of materials required and of the expense for labor. Similarly in the iron and steel business it is customary for manufacturers to contract ahead for materials at the same time that they book orders for their products months in advance. The tendency of dealings in futures is to assign to a particular class, namely, to those who have a special talent and taste for forecasting price variations, the task of estimating the future conditions of demand and supply in each market and naming in advance the prices which competition will tend to establish. The more accurately this class makes its calculations, the more perfectly will its operations cause the present price of each good to adjust itself to the price to be established in the future. The best illustration of this in the United States is furnished by transactions on the produce exchanges.

**66. Speculation Tends to Steady Prices.**—Produce exchanges are now found in nearly all large cities in Western countries and in them contracts for the delivery of the great staples, corn, wheat, cotton, pork, etc., are made three, six and even nine months in advance. Thus in the autumn, after the crops have been harvested, wheat is regularly dealt in in the United States for December, May and July delivery. The wheat available for May delivery has already been harvested, so its amount can be determined with a fair degree of accuracy. Between the end of May and

the end of July new wheat will find its way to the market, and this is a factor to be reckoned with. Figuring on these data and any others that they can secure, wheat operators make their estimates in regard to probable price movements. They decide in their own minds what prices will prevail in May and July and buy or sell accordingly. Suppose that an influential group of operators accurately foresees that a much higher price must prevail in May than prevails in December. Their course will be to buy wheat for May delivery and to continue to buy it so long as there is any margin between the price they anticipate and the price at which others are willing to contract to deliver it. But all wheat stored in elevators in December is potentially wheat for May delivery. It is a simple calculation to subtract the fee for storage and insurance and the interest on the capital invested to determine what price such wheat should command in December to correspond with a given May price. As the May price rises the December price must, in the absence of some extraordinary condition, rise also. It follows that by forecasting accurately the higher price to prevail five months hence the operators help to advance the present price of wheat. As the price rises present consumption will be curtailed somewhat and more wheat will be set aside for future use. This additional wheat will figure as part of the May supply and should lead the operators referred to to reduce somewhat their estimate of the May price. The lower price for wheat for future delivery will be reflected back to present, or "cash," wheat and will depress its price. In this way by means of calculations which constantly require revision operators in futures tend to adjust the present to the future price and to narrow the range of price oscillations.

Some of the shrewdest and best-informed men in the United States find it profitable to devote much of their time to studying the conditions of supply and demand with reference to each of the great staple products. They make

mistakes in their calculations, of course, and very often buy or sell for future delivery at prices widely different from those which actually prevail when the future time arrives. But they are less apt to make mistakes than men who are without their special talent and training, and on the whole their operations have a decidedly steady influence on the prices of the commodities in which they deal. Even more important is the service they render in assuming risks in regard to price changes which otherwise all entrepreneurs would have to share and in making it possible for conservative producers to know just what prices they will have to pay for needed materials months before they have occasion to use them.

**67. Profits Due to General Price Movements.**—In addition to oscillations in the market prices of particular articles, there are general price movements which affect all business. When money prices generally are rising all entrepreneurs are in the happy situation of receiving more for their goods than they expected. They have paid or agreed to pay for materials and factors of production prices and rates adjusted to lower price conditions. Any increase in the prices they obtain for their products affords an extra or competitive profit. The usual effect of such a situation is to stimulate enterprise. Everyone in business for himself is making money and all but the most conservative wish to enlarge the volume of their businesses so that they may make more. Entrepreneurs eagerly compete with one another for control over the factors of production, and by this competition rents, wages and interest rates are advanced until prosperity appears to be general. To illustrate, suppose the different branches of production are represented by the letters A, B, C, D, etc. In all these industries profits above the wages of management are being received. Entrepreneurs in industry A are encouraged to enlarge the producing capacities of their plants and to enter the market as hirers of labor and borrowers

of capital. But the number of workmen and the supply of capital goods are not to be increased at will. To employ more labor and capital at A means normally to draw them away from B, C and D, and this can be done only by offering higher wages and higher rates of interest. But at B, C and D, there are similar inducements to enlarge production. Rather than lose workmen or capital goods, entrepreneurs in these industries will offer still higher wages and interest. This competition will continue so long as there is any extra profit in any line of competitive business to induce it. Unless prices continue to advance to ever higher levels the rising expenses of production will presently cut down the margin of profit until it again amounts only to the wages of management to which entrepreneurs are entitled. Such bursts of prosperity, if unaccompanied by an actual increase in the net product of goods, benefit entrepreneurs at the expense of the other sharers in distribution, whose money incomes increase less promptly than the prices of the goods they consume. As a rule, however, one effect of rising prices is to furnish more active employment for all of the factors in production and to cause a correspondingly enlarged output of goods. In time this increased volume of goods will be available for consumption and then the prosperity will begin to have a solid basis in the increased well-being of all classes in the community.

A period of falling prices affects industrial relations in an exactly opposite way. Instead of receiving profits in excess of their wages of management, entrepreneurs now experience losses. To reduce these so far as possible, they tend to reduce the volume of goods which they produce and to curtail the expenses of production. Either by discharging workmen and failing to renew capital as capital goods are worn out, or by cutting down rents, wages and interest rates, entrepreneurs compel other classes to share their losses with them. Unless the fall in prices continues, it will not be long before the expenses of production are

scaled down by these measures to a point which again permits entrepreneurs to enjoy wages of management commensurate with their abilities. In this case the depression, in the sense of diminished well-being, will be merely apparent until it causes an actual curtailment of the net product. During the short interval that business is continued on the same scale in the hope that the drop in prices will prove to be only temporary, what entrepreneurs lose will be gained by other sharers in distribution, whose money incomes now mean larger command over consumable goods.

If space permitted abundant proof of the truth of the above description might be cited from the industrial history of the United States. The most serious industrial depression which the country has experienced, that of the years 1893 to 1897, was the culmination of a long period of falling prices. On the other hand, the remarkable prosperity which the country enjoyed from 1897 to 1907, almost without interruption, was closely connected with the rise of prices in that period. These general price movements receive further consideration in connection with the subjects of Money and Credit (Chapters XIV. to XVI.) which must be studied before they can be understood.

**68. (2) Profits Due to the Introduction of Novelties.**—Entrepreneurs who discover, invent or make available new and more economical means of want gratification are among the greatest benefactors of the race. It is through their efforts that the consumption of a people gradually adjusts itself to the productive capacities of the environment. Examples of such innovations are legion. Of late years in the United States dozens of varieties of cereal foods have been invented, which preserve the nutritious elements in the grains more fully than the white wheat flour which they serve in a measure to supplant. In the domain of transportation, bicycles and trolley cars have already largely superseded horses, and they in turn are beginning to be superseded by automobiles. Other recent inventions of

far-reaching importance are the telephone, the linotype and the typewriter. In connection with each of these innovations and thousands of others introduced during the last thirty years, large profits have been made either by the inventors themselves or by the entrepreneurs who have made the inventions commercially successful.

In estimating the extent of these profits to entrepreneurs as a whole two substantial deductions must be made. In the first place few if any new goods are offered for sale which do not attract purchasers from other goods. Even novelties which do not directly supersede other goods previously used for the same purpose, cause substitutions which are detrimental to the interests of other entrepreneurs. Thus the introduction of the bicycle is said to have interfered with the business of watch manufacturers in the United States. In a similar way the introduction of the trolley car led to the shutting down of more than one horseshoe-nail factory. From the large profits of entrepreneurs who produce and sell successful novelties must be deducted the losses of entrepreneurs whose businesses suffer because novelties are put on the market. The second deduction is for losses incurred by inventors and entrepreneurs who try to make a success of novelties which are not appreciated by the consuming public. Millions of dollars are spent every year in the promotion of discoveries and inventions which are complete failures from the business standpoint. In a country like the United States, where entrepreneurs are willing to assume large risks in the hope of large gains, it is not at all unlikely that more is lost every year in the effort to find a market for unsuccessful novelties than is made in connection with those which succeed. The net profit to entrepreneurs collectively from the production of novelties is, for these reasons, smaller than most people imagine.

**69. (3) Profits Due to Improvements in Methods of Production.**—Quite as conspicuous in a progressive country as profits from novelties are profits from improved methods

of production. Every entrepreneur is constantly on the alert to improve his methods of production and in this way to reduce his expenses. Consider, for example, the situation of farmers. If they are to make more than mere wages of management they must improve on current methods of cultivation. By treating the land in a different way, using new fertilizers, organizing their labor force better or buying superior kinds of agricultural machinery with their capital, they may accomplish this result. As their expenses of production are reduced, a larger or smaller margin is left as an extra profit or reward for their enterprise. But such improvements soon become matters of common knowledge and common practice. Other farmers imitate them, and in time they become the methods of representative farmers generally, whose expenses have a determining influence on prices. The extra profit which was for a while enjoyed disappears either because prices are lowered or because wages, interest, etc., are raised or because both changes co-operate in adjusting prices again to the expenses of production. As for farmers, so for manufacturers and entrepreneurs in other fields, new methods of production are an important, if not the most important, source of competitive profits.

As the above analysis suggests, profits, which are not monopoly profits, are soon overtaken and eliminated by competition. If improvements were to cease profits from this source would soon cease also. In progressive communities they continue to be an important element in the wealth annually divided among the sharers in distribution because improvements follow one another so swiftly that for every extra profit that is cut off by competition other extra profits due to more recent innovations are substituted.

The same process which cuts down extra profits as the new methods upon which they depend are more and more generally used, inflicts loss on entrepreneurs who have not

the intelligence or enterprise to adopt them. Their expenses of production remain stationary or even increase, and in consequence they incur losses as the competition of progressive entrepreneurs forces prices down to the new cost level. From this it follows that the extra profits of the progressive are usually offset before they disappear by losses on the part of the plodding and unprogressive. It is for this reason that business failures are more common in the most progressive and on the whole prosperous countries than in those where old methods are adhered to and innovations are frowned upon. In the former competition is more strenuous and the relatively unfit are more promptly eliminated.

**70. (4) Profits Due to Variations in Climatic or Other Natural Conditions.**—All industries which depend upon climate, rainfall, the direction and velocity of the winds or other variable manifestations of nature show irregular returns from year to year, and these irregularities count as profits or losses to entrepreneurs. The variable profits of the farmer from this cause are familiar to everyone. He invests capital in the cultivation of his land, paying rent, wages and interest at rates determined by general market conditions. In making his calculations he assumes that he will realize at least an average crop. If it prove to be a good year the crop will be larger than the average and he will receive for it enough to cover the expenses of production and to leave a comfortable margin for profit. In a poor year, on the contrary, he may not only make less than his proper wages of management, but even lose some of his capital. Similarly dependent upon nature are cattle raisers, hunters, fishermen, navigators and many others. In the case of each the variability of nature appears as a perennial cause of profits and losses.

There is every indication that progress in the technique of production is gradually lessening man's dependence upon nature's moods even in the extractive industries. In farm-

ing increased ability to foresee weather changes, artificial irrigation and a host of other improvements enable the cultivator to surmount natural difficulties which would at one time have been fatal to success. In water navigation even greater advances have been made, since steam vessels are now well-nigh indifferent to all but the severest storms. This progress will doubtless continue, but for many generations the industries which at some points depend upon variable nature will show profits or losses as natural conditions are favorable or the reverse.

Side by side with the progress made in counteracting unfavorable natural conditions, there has been a development of the business of insurance, by means of which losses due to accidental causes which used to fall with crushing force on the individuals affected are borne by whole groups of individuals. Insurance thus substitutes for the uncertain prospect of profit or loss the certainty of somewhat higher expenses of production. If it could be developed far enough, profits and losses due to the irregularities of nature might be entirely eliminated, so far as the individual entrepreneur is concerned.

**71. (5) Profits Due to the Exploitation of New Lands and Natural Resources.**—In a comparatively new country like the United States an important source of profit is the exploitation of virgin land and new mineral and other natural resources. As these resources are opened up and their value is demonstrated the incomes to which they give rise become subject more and more to the principles determining rent. During the early stages of exploitation, however, they are too irregular and uncertain to be classified as anything else than profits to the enterprising entrepreneurs who devote time and means to their development.

Profits from this source in a progressive country are sure to exceed largely losses due to misdirected investments. At the same time it is a debatable question whether in some highly speculative ventures concerned with the exploita-

tion of new resources, such as gold mining, more wealth has not been wasted in the fruitless attempt to develop paying mines where nature has created none, than has been returned in profits and rents to the fortunate entrepreneurs who have made rich strikes. There is a fascination about searching for mineral wealth, and especially for gold, that attracts men and capital out of proportion to the likelihood of success in such enterprises, and though it may not be true as sometimes alleged that every pound of gold in existence has cost on the average more than it is worth, this certainly approximates the truth.

**72. (6) Profits Due to Modifications in the Rates of Remuneration of Other Factors in Production.**—Thus far in our analysis of profits we have assumed that the rents, wages and interest rates that entrepreneurs must pay are fixed by general market conditions and may not be changed by individual entrepreneurs. This is true in so far as general market conditions remain stable, but when these are changing, as they usually are in developing countries, when new lands are being brought under cultivation, when the population is growing and when capital is increasing, then rents, wages and interest rates must change too, and there is opportunity for enterprising entrepreneurs to hasten or resist general tendencies and in this way to secure for a time profits above the wages of management. A few examples will indicate how profits may arise from these sources.

One change that has been going on in the United States for several generations is the lowering of agricultural rents in the Eastern States as new lands have been developed in the West. Aggressive farmers of rented farms have taken the initiative in demanding better terms as economic conditions have made a fall in rents inevitable. By so doing they have avoided the losses that their less progressive neighbors sustain by consenting to renew their leases on the same terms as before. In other sections where rents are

rising the more aggressive tenant farmers refuse to pay more until actually compelled to, and in this way keep their expenses below those of their more tractable neighbors.

Similarly there have been general movements in the wages that competition secures for different grades of labor. When wage rates are rising, it is usually possible for some entrepreneurs to resist the movement for a time and in this way to keep down their expenses, without losing any considerable number of their employees. Eventually they must accept the higher rates or lose their men, but during the interval that they refuse to do so, they may reap an extra profit. On the other hand, aggressive entrepreneurs lead the movement to reduce wages when rates are tending downward and may in this way cut down their expenses sooner than their competitors, who receive no higher prices than they do for their products. In agreements as to rates of interest there is less chance for overreaching because those who lend and those who borrow are about equally conversant with the conditions. At the same time even here some entrepreneurs gain an advantage when rates are changing by making better terms than their competitors.

In all of these cases prompt adaptation to favorable conditions or grudging acceptance of unfavorable changes only at the eleventh hour, gives rise to profits. Failure to cut down expenses as occasion offers or too ready acquiescence in rising expenses may, on the other hand, cause losses.

**73. Conclusion.**—In this brief discussion of the causes of competitive profits it has been possible to indicate only the more important of the many circumstances which give rise to them. The financial columns of every newspaper teem with items illustrative of the general causes of profits that have been described and suggest others to which no reference has been made. In connection with all of these causes of profits the essential principle to note is that they originate in change and are important because it

takes time for competition to adjust economic relations to changed conditions.

If industrial society is progressing and if in each period there is more wealth to be divided among the sharers in distribution than in the preceding period, a large part of the increase will appear temporarily as extra profits going to entrepreneurs. In the same way, when industrial society is retrogressing the loss falls first upon entrepreneurs. Theirs is the elastic share that increases or diminishes readily in response to changed conditions. But whether the net balance happens to be above or below the wages of management, competition among entrepreneurs themselves is a force which tends constantly to make their gains correspond to bare wages. Profits stimulate them to bid against one another for the factors of production and to raise rents, wages and interest rates until expenses and prices are again equal. Losses lead them to contract production and cut down expenses until in this way equality is restored. Thus, however large profits or losses may be at any given time, they are always in process of extinction, always, that is, unless monopoly influences intervene and prevent the forces of competition from accomplishing their work of elimination.

#### REFERENCES FOR COLLATERAL READING

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## CHAPTER IX

### DISTRIBUTION: MONOPOLY PROFITS

74. **Monopoly Contrasted with Differential Advantages in Production.**—*Monopoly* means usually in economics *such control over the supply of an economic good as enables the monopolist to regulate its price*. This definition refers to *producers' or sellers' monopolies*. Contrasted with these are *buyers' monopolies*, which rest on control over the demand and the regulation of prices from that side. In practice buyers' monopolies are so unusual that only brief consideration is given to them in this treatise.

A distinction which it is important to note at the outset is that between monopoly and differential advantage. In nearly every branch of competitive business differential advantages are found. In farming one producer of wheat uses better land than another producer. In manufacturing one mill owner utilizes a superior source of water power. In all pursuits competitors are themselves differently endowed, some being more capable than others and receiving larger returns, while all are selling the same goods in the same markets at the same prices. Although important sources of income, such differential advantages are not the cause of monopoly profits. The fact that some pieces of land and some sources of power are better than others, does not prevent an active competition among farmers and manufacturers which tends to keep prices down to the expenses of production of representative firms. Equally ineffectual as a bar to active competition are the personal differences among men. The consideration of the influ-

ence of these differential advantages upon the distribution of incomes, belongs under the head, not of monopoly, but of rent and wages. Only when competition is interfered with and one firm or a combination of firms secures such control over the supply that it may regulate the price, does monopoly appear. Its essence is control over the supply and its surest indication is regulation of prices.

**75. A Classification of Monopolies.**—The principal classes of monopolies which are of interest to the economist are: (1) personal monopolies; (2) legal monopolies, which may be (a) public or (b) private; (3) natural monopolies of situation; (4) natural monopolies of organization; (5) capitalistic monopolies; (6) labor monopolies.

A personal monopoly arises when one individual controls the supply of a given good, either because he possesses unique talent (*e. g.*, an artist's monopoly of his own works), or because he uses a secret process so superior to all other processes that he is able to drive all competitors from the field. A legal monopoly is one based upon some law or governmental privilege. Examples of public legal monopolies are furnished by the tobacco monopoly of France, the salt monopoly of Saxony and the post-office monopoly of the United States. The most familiar private legal monopolies are those based on patents, copyrights and exclusive franchises. Natural monopolies of situation are of two kinds: those due to social and those due to physical conditions. Of the first kind are the monopolies which the single village blacksmith and storekeeper enjoy until competitors enter the field. More important are monopolies of the second kind, which depend upon some physical limitation in the sources of supply of the goods controlled. Of this type are businesses using unique mineral springs or mountain passes, or controlling the whole areas from which certain commodities, such as diamonds in Africa or anthracite coal in the United States, are obtained. Natural monopolies of organization are

businesses which obey a law of diminishing expense, no matter how large the business becomes. Such are the railroad and businesses concerned with the distribution of letters, telegrams, parcels, gas, water and electrical power. Capitalistic monopolies are those which result from the unhampered power of large aggregations of capital and are represented in the United States by the so-called trusts. Labor monopolies are monopolies resulting from combinations of skilled workmen able to control the supply of the economic good, labor.

When all of the businesses in a country like the United States which may properly be classed under one or other of the above heads are considered, the importance of monopoly is more likely to be exaggerated than underrated. Personal monopolies are encountered in connection with all artistic and professional work. Although not usually the ground for very large incomes in individual cases, they exert in the aggregate a considerable influence on the distribution of wealth. Secret processes are not at present the source of very great monopoly returns but only because those who control such processes usually prefer to have their monopolies confirmed by patent. The number of patented processes now used in connection with business enterprises may be inferred from the fact that from 1836 to 1908 the United States issued as many as 875,679 patents. Although the monopolies to which patents give rise are only temporary, in a country in which processes are so soon superseded as they are in the United States, they serve to give a monopolistic character to nearly every branch of manufacturing business. Businesses enjoying exclusive franchises are less common, but on the other hand they include some of the branches of production that are most vital to the general well-being such as water, gas and street railway companies. Natural monopolies of situation are not as yet very important, but they appear to be on the increase. A few years ago the suggestion that a single

corporation could monopolize the iron-ore and coking-coal resources of the United States would have been greeted with incredulity. Such a consummation has not yet been realized by the Steel Trust, but its progress in that direction must make economists hesitate to impose any limits upon the possible development of natural monopolies of this type. The importance of natural monopolies of organization, which embrace the chief transportation businesses of the country, can hardly be exaggerated. Upon them all other businesses are vitally dependent, and this dependence increases rather than decreases as production becomes more concentrated and the division of labor is made more minute. Finally, the capitalistic monopolies and the labor monopolies, which are among the latest fruits of the country's industrial development, merit all of the attention that has been accorded to them. If these various monopolies were quite unhampered in their control over the prices of the goods they produce the present might well be styled the age of monopoly rather than the age of competition, but fortunately control over prices is rarely unhampered.

**76. Limitations on Monopolistic Control over Prices.—** The most important limitations on the power of a monopolist to regulate prices are three: (1) the possibility open to buyers of substituting other goods for those which are monopolized, (2) the possibility of competition which may deprive the monopoly of its control over the supply, (3) the possibility of legal interference. Taken together these three limitations confine the price-making power of monopolies within rather narrow limits and explain the fact that their practical operation is so much less harmful to the interests of consumers than contemplation of the nature of monopoly would lead one to expect.

The limitation imposed by the power of substitution depends upon the range of substitute goods open to buyers. A few examples will make this clear. Suppose that the monopolized good is a particular kind of wine. Substitutes

for it are all other kinds of wine, all other kinds of liquors, even all other kinds of comforts and luxuries so far as wine itself is in this category. An attempt to increase the price would under such circumstances greatly reduce the amount of wine of the particular brand that could be sold. Unless it had especially endeared itself to the palates of consumers, a comparatively small increase in its price would spoil its market. The attempt to double the price might even divert the entire demand to other goods. In such a case the effort to win more than a small margin of monopoly profit from consumers would be fatal to the interests of the monopolist.

Again, suppose refined sugar to be the monopolized product. The customary price for this good is so low as to encourage its general consumption, and it is now looked upon by nearly everyone as a necessary of life. Moreover, substitutes for it, such as raw sugar, molasses, maple syrup, etc., are few and unsatisfactory. The range for substitution is so narrow in this case that the monopolist may make considerable changes in the price without seriously affecting the demand. In fact, if the price is raised the demand for other articles is more likely to be curtailed than the demand for sugar itself. Under such circumstances the conditions as regards the possibility of substitution are peculiarly favorable to monopoly profit. Fortunately for consumers they are less favorable as regards the possibility of competition.

Take, finally, the case of a railroad which furnishes the only available outlet to the market for a given district. Its rate-making is not controlled by competition in the ordinary sense, but its patrons have always the alternative of not prosecuting the industries whose products must be shipped to the distant market. Their power of substitution is that between producing for rail shipment and devoting their land, labor and capital to other production. In practice this is a very important limitation, since the

economical administration of a railroad demands a large volume of traffic, and a road cannot afford to make its rates so high that only a few trains will be run over its costly roadbed each day. At the same time in many localities this limitation is not sufficient to insure reasonable rates, and legal interference has been found necessary to protect the interests of the public.

The possibility of exciting competition and losing control of the supply is an ever-present danger to capitalistic monopolies and in less degree to personal and natural monopolies of organization. How true this is of capitalistic monopolies has been illustrated over and over again in the history of the trusts in the United States. That the monopolies of the village blacksmith, village grocer, etc., are likewise insecure for this reason is too obvious to require proof.

Natural monopolies based on the law of diminishing expense are subject to the same check. For example, in the railway business, while it is true as a general statement that one company can carry freight and passengers between two points more cheaply than could two companies dividing the traffic between them, it is also true that the difference is not so great that unduly high rates charged by the first company will not induce capitalists to construct a parallel road to compete for the business. Such competition is almost always uneconomical from the social point of view, but the history of railroad building in the United States is full of evidence to show that it frequently springs up and acts as a limitation on monopoly.

The last limitation referred to, that is, the possibility of government interference, applies especially to natural and capitalistic monopolies. In the case of the former it is coming to be recognized more and more fully that competition cannot be relied upon to regulate the businesses affected and that government interference or government regulation is the only alternative. How far this conviction

has found expression in law is considered in Chapter XXI. in connection with the discussion of efforts to regulate railroads in the United States. Government interference with capitalistic monopolies or trusts has been attempted also in the United States through the so-called anti-trust acts considered in Chapter XXII.

Summing up these considerations in reference to limitations on monopoly, we may conclude that the possibility that other goods may be substituted for the monopolized product applies to all monopolies, but with a force varying in each case with the range of substitutions open to consumers. The possibility of competition threatens all except personal monopolies of ability, legal monopolies and natural monopolies of location. Legal interference, finally, has actually been applied to natural and capitalistic monopolies. These three limitations serve as effectual checks on the reckless exercise of monopoly power. Only when the range of substitutions open to consumers is narrow and the obstacles which competitors must overcome, in order to enter the field, formidable, does monopoly present a serious problem or is legal interference necessary.

77. **The Law of Monopoly Price.**—Monopolists, so far as they are free to obey the dictates of self-interest, tend to fix those prices for their products which will yield the largest monopoly profits. Just what this means may be made to appear from a simple illustration.

Consider the case of a patented article in general use, like a special brand of soap. As a rule the expense of producing such an article diminishes as the number of units produced increases. On the other hand, in accordance with the familiar law of demand, as the number of units offered for sale is increased the price that can be secured for each unit decreases. Suppose that the volume of sales at different prices, the expense of production per unit for these different quantities sold and the monopoly profits received are as represented in the following table:

Price	No. of Cakes Sold	Gross Receipts	Expense per Cake	Gross Expenses	Profits
50c	100,000	\$ 50,000	12c	\$ 12,000	\$ 38,000
40	130,000	52,000	11	14,300	37,700
30	200,000	60,000	10	20,000	40,000
25	400,000	100,000	8	32,000	68,000
20	600,000	120,000	7	42,000	78,000
15	1,000,000	150,000	6	60,000	90,000
10	2,500,000	250,000	5	125,000	125,000
9	3,000,000	270,000	4 $\frac{5}{6}$	145,000	125,000
8	3,500,000	280,000	4 $\frac{5}{6}$	165,000	115,000
7	4,000,000	280,000	4 $\frac{5}{8}$	185,000	95,000
6	6,000,000	360,000	4 $\frac{1}{2}$	270,000	90,000
5	10,000,000	500,000	4 $\frac{3}{8}$	437,500	62,500
4 $\frac{1}{4}$	14,000,000	595,000	4 $\frac{1}{4}$	595,000	.....

A study of this table shows that on the conditions assumed the price that affords the maximum monopoly profit is somewhere between nine and ten cents. Until the price, ten cents, is reached the larger volume of sales and diminishing expense per unit more than counterbalance the loss due to lowering the price. Below nine cents the loss in price is no longer offset by these other factors, although they continue to operate, and consequently profits decline. As this table indicates monopoly price does not necessarily mean extravagantly high price. In this example the price most advantageous to the monopolist is about double the expense of production. In actual practice the margin of monopoly profit is apt to be even smaller than this except for goods the demand for which is quite inelastic.

When a monopolist enjoys exclusive control of the monopolized good, he may fix the price at the point affording the maximum profit without fear of exciting competition. But few monopolists are so fortunately situated as this implies. Competition, even though not in active operation, is an ever-present possibility with which most monopolists must reckon. Prudence dictates usually a more conservative policy in reference to prices than that which would secure for the time being the largest monopoly profits. In the assumed case the price of soap is likely to be fixed at something less than nine cents, in the expectation that the

present loss in profits will be more than made good by the protection of the monopoly from future competition that it insures. In the same way fear of governmental regulation often checks the rapacity of monopolists long before such regulation is actually undertaken. The law of monopoly price thus indicates the extreme limit to which monopolists are likely to go in fixing prices and not necessarily the price that they will actually charge under the practical limitations which control their conduct.

**78. Methods of Concealing Monopoly Profits.—** Monopoly profits have never been looked upon with favor in the United States. Even the suspicion that they were being enjoyed has sufficed often to disturb the conditions which made them possible, either because consumers have combined to boycott the monopolized good or because the government has interfered. Under such circumstances it has been but natural for monopolists to devise numerous expedients for concealing their real earnings.

For personal monopolies, to deceive the public as to the profitableness of business activity is an easy matter, but it is less so for corporations with monopoly powers. However secretive the latter may be in regard to their methods of doing business, they are compelled, on sharing their earnings among their stockholders, to disclose the amount of these earnings to a number of persons. The stock of a small corporation may be so narrowly held that secrecy even in reference to dividends is possible, but this is rarely the case with large corporations. The latter can conceal their profits only by distributing them in other forms than dividends to stockholders, or by inflating their capitalization so that large dividends may be paid without exceeding a moderate rate of return on the nominal capital. A few words may be said about each of these methods. Directors may expend surplus earnings for additional equipment, patents or other property at greatly inflated valuations. By this means monopoly earnings are diverted to the owners

of the properties purchased, who may be the directors themselves or their friends. This method may conceal the monopoly profits even from the stockholders, who continue to receive only moderate dividends. Somewhat similar, and even more common, is the practice of dividing monopoly profits among the higher officials of the monopolistic corporation in the form of large salaries. It is a familiar fact that monopolies are good employers. They frequently pay wages above the competitive rates even to their ordinary workmen. To some extent, and perhaps fully as regards the lower grades of labor, this policy is justified by the better service that it secures. It is not, however, confined to the ordinary grades of labor, but applies in extreme form to salaried officials. These men are in a position to bring influences to bear on boards of directors to have their salaries increased to much more than they could hope to earn if they were engaged in competitive industries. Sometimes they are themselves large stockholders in the enterprises which they manage; at others their knowledge of the business may be valuable to the corporation because they are in possession of secrets which it would be highly disadvantageous to have made public. To insure their continued loyalty to the interests of the monopoly they must be well paid for their services. On these and other grounds monopoly profits are often hidden in salaries much above what entrepreneurs directing competitive businesses could afford to pay for similar grades of service.

The most common expedient of all for concealing profits is the practice of inflating the capitalization of the corporation. Where a business is organized by shrewd men who foresee its monopolistic possibilities, it is usual to start with a grossly inflated capitalization. In the railway business, for example, it has not been unusual to secure all of the capital required by the sale of bonds and to distribute the stock as a pure bonus. Industrial combinations as organized in the United States accomplish the same result by

putting out preferred stock equivalent to the actual capital invested in the business and an equal or even larger amount of common stock as a bonus. In these and other ways the nominal capital of an enterprise may be made from the first, two, three or even five or ten times the amount actually invested in it. Such an arrangement permits directors to distribute very large profits as dividends on the nominal capital without exceeding the ordinary rate of interest.

It often happens, even when large monopoly earnings are anticipated, that the nominal capitalization is not made large enough to conceal them. In such cases, and in the more usual cases in which actual and nominal capitalization start together, the practice of "watering" stock to conceal excessive earnings is frequently resorted to. This consists simply in issuing new stock for which no equivalent investment is required. It may be accomplished by means of a stock dividend, each shareholder being given an amount of new stock proportional to his original holding; or by the issue of new stock for subscription at a nominal price, subscriptions being open only to shareholders, directors or other favored investors. By these means the nominal capitalization may be expanded to keep pace with earnings and to permit the distribution of the latter without any apparent increase in the dividend rate.

The above ways of concealing monopoly profits have been resorted to so generally by monopolistic corporations in the United States that the casual reader of the reports of some of the most successful of these enterprises would never suspect that their earnings were larger than those of competitive businesses. To show that they are so in fact requires a full knowledge of the operations of such corporations from the time they were first organized. In most cases such knowledge is confined to those most interested to keep it secret and in consequence it is rarely possible for an impartial investigator to determine what part of the earnings of a monopolistic enterprise represents a fair in-

terest on the capital actually invested in it and what part monopoly profit.

**79. Current Misapprehensions in Regard to Monopolies.**—There is a widespread impression in the United States that monopolies are always and unalterably opposed to the public interest. This is based partly on experience of the bad phases of monopoly and partly on the teachings of jurists and economists. American courts uniformly declare monopoly, except that created by the government itself in the exercise of its constitutional powers, illegal. Economists are equally prone to characterize monopoly as abnormal and to extol an industrial system of free, all-sided competition as that best calculated to promote the general interest. There is, of course, good reason for this distrust of monopoly, but if the analysis we have given of the different kinds of monopolies and of the restraints under which they exercise their powers is accurate, it ought not to be extended to all without qualification. For some industries monopoly is not only as normal and inevitable as is competition for other industries, but it is the form of organization that best serves the public interest. Natural monopolies of organization, for example, are monopolies because as such they can produce more economically than could competing firms. For them the monopoly form of organization is the desirable form, which should be encouraged rather than discouraged by those who have the public interest at heart.

Another misapprehension that is current is that monopoly always means large monopoly profits. That this is not the case is evident when it is remembered how many patented articles, in connection with which the government itself undertakes to protect the producer in his monopoly, are regularly produced at a loss. Many other conditions in addition to control over the supply of the good produced are necessary to make production profitable. When all the conditions are favorable, large monopoly profits, of

course, may be and often are secured. But the power that consumers possess of substituting other goods for those monopolized and the danger that competition will be excited are ever present forces which confine monopoly profits in most businesses within narrow limits.

**80. The Influence of Monopoly Profits on Other Shares in Distribution.**—In this treatise monopoly profits are discussed independently of the other shares in distribution, not because they are considered abnormal or even unusual, but because it is easier to trace their influence when they are studied in isolation. In actual industrial society competitive and monopolistic enterprises are carried on side by side and act and react upon one another. The influence of monopoly profits on the other shares in distribution should be briefly indicated before we turn to a discussion of the competitive shares of income—rent, wages and interest—treated in the following chapters. To secure monopoly profits monopolists must fix the prices of their goods above their expenses of production. In the example given in an earlier section the largest monopoly profit was secured when a price between nine and ten cents was fixed for the patented soap. The expenses of production for the 2,500,000 cakes that could be sold at ten cents averaged only five cents, so that the effect of the monopoly was to make the price nearly double what it would have been had competition had free play. To maintain the price at ten cents the monopolist must, of course, limit production to the 2,500,000 cakes which the public will take at that figure. If competition forced him to lower the price to six cents he could produce and sell, according to the conditions of the illustration, 6,000,000 cakes. At the price corresponding exactly to the expenses of production, four and one-quarter cents, he could sell more than double this product. The effect of monopoly is, accordingly, to reduce the amount of the monopolized good that is produced and sold below what it would be under conditions of free, all-

sided competition. Only through such reduction or curtailment of the supply can the coveted monopoly profit be secured. But reducing the output of the monopolized good involves the employment by the monopolistic enterprise of less land, labor and capital than would be needed in the same branch of production if competition had free play. The effect of monopoly is thus to increase the supplies of the factors of production which must find employment in competitive industries. What influence this mal-distribution of the factors of production is likely to have on the shares of income, rent, wages and interest, can only be explained after we have considered how these shares are determined. Such influence is of course supplementary to the tax on all consumers who buy monopolized products, resulting from the enhancement of their prices.

The phases of the monopoly problem that have assumed greatest importance in the United States concern legal and natural monopolies, trusts and labor monopolies, and these are treated at some length in later chapters (XVIII., XX., XXI. and XXII.). The reader will find in them many concrete details and illustrations which, out of consideration for space, have been omitted from the preceding sections.

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\* *Marshall*, Principles of Economics, Book V., Chap. XIII.; \* *Ely*, Monopolies and Trusts, Chaps. I.-IV.; \* *Bullock*, Introduction to the Study of Economics, Chap. XI.; \* *Fetter*, Principles of Economics, Chap. XXXIII.

## CHAPTER X

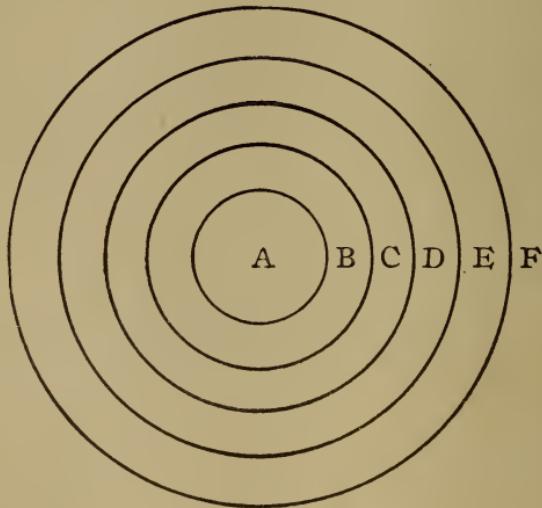
### DISTRIBUTION: RENT

**81. Definition of Rent.**—In contrast with competitive and monopoly profits, the shares in distribution now to be discussed—rent, wages and interest—are regular and persistent. Their payment is not due to the absence of competition or its failure to work out its full effects, but is the direct consequence of the activity of competitive forces. In fact the keener and more general competition is, the more certain and definite these shares become. For this reason, in explaining them, we may disregard the factors making for change and monopoly, which play the major rôle in determining profits, and confine attention to the division of the money income when prices are normal and just equal the expenses of production to representative firms. The same influences which determine rent, wages and interest under these conditions, determine them also in actual industrial society where market diverge from normal prices and entrepreneurs realize profits or losses in consequence.

Rent may be defined as *the share of income that goes to owners of land, sources of water power and other gifts of nature which assist production, as compensation for the use of these factors.* Needless to say, it is only paid for the use of factors which are limited in supply in comparison with the demand for them and therefore in the category of economic goods. When land is leased, rent is actually paid to the owner. When it is used by the owner, it is an element in the gross returns from his business, economically distinct from the other elements.

82. The Different Grades into Which Land may be Divided.—The source of rent has already been indicated (Section 37). As has been shown, land and natural powers assist production unequally in different situations and rent is what entrepreneurs pay for the use of superior land and sources of power to equalize conditions.

In a country like the United States land is divided up into hundreds of different grades to be applied to as many different productive uses. To simplify the explanation we will assume that these different uses of land may be included under five heads as follows: Grade A, sites for city stores; Grade B, sites for city residences; Grade C, truck-farming plots; Grade D, wheat land; Grade E, grazing land. The relation among these different grades of land may be represented without great inaccuracy as that among the areas enclosed between concentric circles, as in the following figure:



At the center, A, is the land devoted to store sites, which is economically the most important use. For purposes of trade central situations must be selected. These are also

desirable for residence purposes, but inasmuch as a residence site serves but one family, while a store site serves many families of customers, the store use triumphs.

Next to the store sites in a city are residence sites, B, which, other things being equal, are desirable in proportion to their nearness to the business centers. Many lots are just on the borderland between these two uses. It is just worth while for storekeepers to pay a little higher rent for them than they command as residence sites, or not quite worth while.

Beyond the residence sites are plots devoted to truck-farming, C. In every city the line is somewhat roughly drawn between these two grades, and some land is found in a transition stage which may be had for truck-farming at a very moderate rental on condition that the lease shall be terminable at the will of the owner. Lots in this situation are the borderlands between grades B and C.

All land good enough and near enough to a market to be used for truck-farming might be used for the cultivation of some staple crop, like wheat. That it is not is proof that truck-farming causes it to yield a higher rent than would wheat-farming. Trucking is economically a more important use, chiefly because green vegetables will not stand distant transportation as will wheat and other staples. On the outer circumference of the belt of land devoted to truck-farming will be found acres which it does not quite pay to use for this purpose and which are cultivated extensively for some staple crop. These are the borderlands between grades C and D.

The transition from arable farming to grazing occurs similarly at the outer circumference of the lands devoted to the growing of wheat. Land too remote or too poor to be sowed with a wheat crop is yet well adapted to the grazing industry and may afford a moderate rental in comparison with the land still more remote and still poorer which it barely pays to devote even to this economically

least important industry. Beyond this last land at the outer circumference of the grazing belt is still more land, F, that in the country's present stage of industrial development is economically useless and therefore valueless. Under the Homestead Acts lands of this grade may be had almost free of charge from the government. Practically speaking, it is no-rent land, and so long as any considerable amount of it remains open to settlers it furnishes a no-rent margin from which all rent is calculated in the manner described below.

In this classification more attention has been given to situation than to fertility or other qualities as a guide to grading lands, because it is the phase of the subject most apt to be neglected. The reader scarcely needs to be reminded that the other qualities enumerated in Chapter IV. are quite as potent factors as situation in determining where a piece of land belongs in the economic scale. In the case of lands whose products are of high value in proportion to their bulk, situation counts for little in comparison with the richness of the source of supply. This is illustrated by the fact that the gold resources of the Klondike are being exploited nearly as rapidly, notwithstanding the remoteness of the region, as those of Cripple Creek.

**83. Causes Determining the Amount of Rent.**—To the successive grades of land that have just been described the reader must oppose in his imagination the market for the goods which land and the other factors of production unite to produce. First comes the demand for lots for business purposes. Entrepreneurs appreciate the importance of location as a condition to business success. The best sites are eagerly taken and, as the community grows, new lots are each year withdrawn from their old use as residence sites because business men are willing to pay a little more rent for them. Improvements on the land interfere somewhat with the free play of this tendency, but even the most substantial buildings decay in time and if a

broad view be taken there will be found enough plots to pass each year from use as residence sites to use as store sites to maintain a practical equilibrium. Different kinds of businesses, railway transportation, wholesale and retail trade, banking, etc., require lots in different situations, and all such differences have their influence on rents. We shall not be far wrong, however, in assuming that business men require centrally located lots, the lots embraced in the inner circle, A, in the figure. In deciding what rent he can afford to pay for a given store site, the entrepreneur never thinks of comparing it with farming land on the outskirts of the city. He knows that unless he establishes himself within a limited area he might as well not go into business. To him marginal lots are not those on the outskirts of civilization which he could get for nothing, nor even those on the outskirts of the town whose rent is low, but the choice residence lots on the border between grades A and B, for which he must pay a high rent because of the demand for them for residences. To this marginal rent, which all entrepreneurs must pay for lots in A, is added a differential rent for the better lots corresponding to their superiority. The choicest lot of all yields the highest rent, and this is what it adds to the returns of a representative firm for a given outlay in wages and interest in that line of business which depends most on situation for its success, retail trade. The practical determination of this rent is a matter of considerable difficulty, and it is doubtful if the exact competitive rent is ever paid for such a piece of land. Something approximating this amount is paid, however, or is charged to the account of rent by the entrepreneur who owns the site on which his business is located. From this maximum the rents of inferior lots decrease to the marginal rents which those on the border command. In each case rent figures as one of the expenses of production which the practical business man counts on recovering in the price.

The determination of the rents of residence lots is effected in exactly the same way. From the highest rent of the best lot, which corresponds to the lowest rent for a lot of grade A land, to the highest rent truck-farmers are willing to pay for border lots between B and C, there is the same gradual descent, influenced in this case by calculations of utility rather than of business returns. To the extent that personal considerations weigh more in the choice of house-sites than in the choice of business locations, these calculations of utility are variable, but when we are considering the thousands of people of each social class that make up a city population these personal eccentricities neutralize one another and may be disregarded. For those who reside in cities as well as those who do business there the choice is not between rent and no-rent, but between high rent and marginal rent. Lots to be had for nothing are so far away from the places where city dwellers earn their livelihoods that they are worth to them considerably less than nothing.

The rent paid by the truck-farmer, or credited by him to his land of grade C, obeys the same principles that have been outlined. According to the situation, fertility, etc., of the land it pays a rent ranging between that which the best truck land affords, the marginal rent for grade B, and the rent which must be paid for the borderland between C and D to keep it from the wheat farmer, or more accurately which as wheat land it would afford. Similarly the wheat farmer pays a marginal rent to cover what the poorest wheat land would be worth for grazing purposes. The grazier himself is surrounded by land of a still lower grade, F, which is still in the category of free goods. This margin is accordingly a no-rent margin and the price of his product need under normal conditions merely cover the expense for wages and interest on the poorest land on which cattle, sheep and horses are raised.

Summing up this explanation, we may say that rent is paid out of the prices which the "products of the soil" command. The supply of land of each grade, except the lowest, being limited, users of land bid against one another for different plots. This competition causes land to be graded in accordance with its economic importance. The rents paid for lots above the lowest grade include a differential element measuring the superiority of the land in its grade and a marginal element common to all land of the grade. Only grazing land, or land at the bottom of the economic scale, commands a rent consisting only of the differential element. It comes into direct comparison with free or no-rent land and the small rent it affords measures the narrow margin that separates the value of its products from the free goods which may be obtained gratuitously through the use of free land.

**84. The Rent of Mines and Sources of Water Power.**—In the above explanation of rent attention has been confined almost exclusively to land in the narrow sense. The rent earned by sources of water power and by mines is determined in a similar way, but deserves separate consideration.

The utilization of water power involves usually a considerable outlay of capital, and hence the marginal powers used must afford a large return for interest on the capital invested even though they yield no rent. In connection with the use of water power situation is also an important factor. It is profitable to use the power of Niagara because it is surrounded by a rich agricultural and manufacturing country. Much cheaper sources of power are not yet utilized west of the Mississippi because other conditions are not favorable to the development of industries to which the power might be applied. From the marginal source of power in use, which affords no rent, the rents of superior or more favorably located sources of power are calculated by the familiar comparative method. Ordina-

rily water power is utilized by the entrepreneur who owns it, and hence its rent appears only as an item in his private bookkeeping. Competing with water power are steam power, horse power, etc. The price at which any substitute power can be obtained for the performance of a given industrial task constitutes a maximum above which the rent of water power cannot for any length of time be maintained.

The rent of mines is determined in the same way as the rent of land, except that the marginal mine is not necessarily one which affords no rent. Since a mine will not renew itself, but by each year's operations is depleted of so much of its ore, the rational owner hesitates to work his mine when it barely pays expenses. The ore is a valuable asset, and the owner is short-sighted who takes it out to sell at cost. In practice this consideration is not very important. Mining is so uncertain that in nearly every branch of the industry mines are operated at cost or even at a loss by men who hope that the ore will get richer with depth or that the price of the mineral will advance. As a matter of fact, therefore, it is usually possible to find no-rent mines producing each variety of mineral that comes out of the earth. The rent of better mines is measured up from them as a no-rent margin. When mines are operated under lease the rent is usually calculated as a royalty proportioned to the amount of ore actually removed from the ground. Under this system when mines are operated literally at cost in wages and interest, the royalty represents an actual loss to the operator. This is usually an effectual bar to the operation of no-rent mines by other entrepreneurs than those who own them, but since the lease system is exceptional rather than the rule, this does not prevent the presence of no-rent mines in nearly every branch of the mining industry.

**85. Complications in Connection with the Determination of Rent.**—Thus far in the explanation of rent, we

have spoken of land as though it were perfectly graded from best to poorest, and have implied that the location of a given piece of land in the particular grade to which it belongs is a simple matter. There are several well-known facts in regard to land, sources of water power and mines which are inconsistent with these assumptions, and we must now consider whether these facts invalidate the explanation of rent which has been given.

(1) There is not merely one use to which land is applied down to a no-rent margin, but several uses. In the United States some wheat is probably raised regularly on no-rent land and a good deal of corn is so produced. In these cases the rents of better wheat and corn lands are measured from the no-rent margin just as are those of the better grazing lands. Instead of having one no-rent margin we have several, but their collective influence on rent is no different from that traced to a single one.

(2) In farming in the United States the tendency is more and more towards the diversification of crops. No one crop is raised continuously, but different crops are raised in rotation, and the productiveness of the land depends not upon its yield of wheat or corn or cotton alone, but upon its yield of all of the different crops grown over a series of years. Although this greatly complicates the rent problem it does not change the principles upon which rent depends. The tendency is still to devote each piece of land to the use for which it is economically best adapted. If this is diversified farming, then the average return in the different crops in the rotation for a series of years must be calculated and made the basis for comparing it with other pieces of land. Through the indirect process described it will be compared finally with no-rent land on the margin, and the surplus return it affords in comparison with no-rent land will be its rent.

(3) No piece of land yields exactly the same return, even though cultivated in just the same way, two years

together. The weather is a capricious partner upon which every farmer depends, and as a result of weather changes large crops are sometimes followed by small crops in spite of everything the farmer can do. These variations affect rent only by making it less a matter of exact calculation and more a matter of approximate estimate. Uncertain as is the outcome of each year's farming, the average return for a series of years may be foretold with a good deal of accuracy. It is these averages that should be and are considered in calculating the rent properly ascribable to a piece of land.

(4) Some pieces of land, such as the barren rock of particular lots in New York City, are well adapted to one purpose, but unsuited to any other. Yet the absence of possible substitute uses does not prevent such pieces from commanding often very high rents. This is no real exception to the theory as explained. The primary cause of rent is the demand for land for industrial uses. If the possible uses are arranged in a scale in the order of their importance, then the best land for the purpose will be assigned to use A down to the point where a given piece is even better adapted economically—will yield a larger return—in use B. The existence of some pieces admirably suited for use A which will not serve use B or any other use simply lessens the requirements for land for use A that will serve use B. The result is a somewhat lower rent margin between A and B which communicates itself all along the line. Land adapted for one purpose only, if used at all, is of necessity devoted to that purpose and affords a rent depending upon the way in which it compares with marginal land used for the same purpose.

Space will not permit a discussion of other apparent exceptions to the theory and their explanation must be left to the reader's ingenuity. In actual industrial society the rent problem is complex because new pieces of land are constantly being brought into use and old pieces are con-

stantly being assigned to new uses. This makes the calculation of economic rent at any one time difficult and necessitates repeated revisions of the figures. The student who has mastered the underlying principles determining rent, however, will have no difficulty in ascribing their proper weight to these complicating circumstances.

**86. Rent and Interest on Capital Permanently Embodied in Land.**—The difficulty of distinguishing between land and capital in the form of permanent improvements has already been alluded to. Once made, investments of capital in permanent improvements are merged in the land, and the incomes they afford obey the principles just laid down in reference to rent rather than those about to be explained as applying to interest. For example, consider the return on the investment of capital necessary to clear land and prepare it for the first time for cultivation. Unless the return promises to be large enough to pay the current rate of interest on the investment it will not ordinarily be made, but after it has been made the cleared land affords an income in no wise controlled by the amount of the investment. All the labor of New England farmers during the seventeenth and eighteenth centuries in clearing their farms of stones and improving them in other ways did not avail to check a rapid fall in the incomes they afforded to their descendants so soon as they came into competition with the better lands of the Mississippi Valley. The abandoned farms of New England bear eloquent testimony to the fact that interest can be continuously secured only for capital that may be withdrawn and reinvested as often as changes in industrial conditions make this desirable. So soon as capital becomes embodied in fixed and unalterable capital goods, the income it affords ceases to obey the principles determining interest and becomes subject to the law of rent. Most improvements, however, are not fixed and unalterable, but wear out and have to be renewed. They

require, therefore, a continuous reinvestment of capital, which will only be made on condition the income secured corresponds with the rate of interest to be obtained in other lines of investment. In this indirect way the return on perishable improvements is adjusted to the current rate of interest.

**87. The Relation between the Rent of Land and its Price.**—The rent of a piece of land, whether actually paid or appearing merely as an item of income in the book-keeping of the land-owner, has a determining influence on the price that can be secured for it. As an investment, land is valued, as is any other form of income-producing property, by capitalizing its annual return at the current rate of interest. For example, if a given piece of land is found by experience to bring in on the average a net rent of \$1200, and the current rate of interest is 6 per cent, its price will normally be \$20,000, or the sum which invested at 6 per cent would yield the same return. If the rent is only \$600 the price will be only \$10,000. On the other hand, if, in the first case, the rate of interest had been 4 instead of 6 per cent, the price of the land would be \$30,000. The price of land thus varies directly with the amount of its rent and inversely with the rate of interest. In a developing country, like the United States, the probability is so strongly in favor of an increase in rents, especially in the case of city lots, that shrewd investors are willing to accept even less than the current rate of interest from their investments in land. In such cases the present value of a lot may be the capitalized value, not of its present, but of its prospective rent. Land has been on the whole an excellent investment in the United States during the last thirty years, in part because the rent it affords has so generally risen, but quite as much because the rate of interest has fallen and the prices of pieces of land have risen even more than the rents. The latter point must be remembered in

connection with the interpretation of statistics showing the growth of wealth. In countries experiencing a declining rate of interest there is an appreciation of land and other permanent sources of income without any corresponding change in the ability of these factors to contribute to general well-being.

88. Summary of the Explanation of Rent.—In concluding the explanation of rent it may be well to summarize the principal points brought out in this chapter and Chapter IV.:

1. Rent is an income which arises in consequence of the superior productivity of land above the margin in comparison with that at the margin.

2. Marginal land for some of the uses to which land is put is actually no-rent land. More commonly the marginal land for any particular use itself affords a rent because, though marginal for the given use, it is above the margin for some other use to which it might be applied. Rent is thus composed usually of a differential and of a marginal element. The former is an expense of production only to entrepreneurs using superior land for the given purpose, but the latter must be paid by all entrepreneurs engaged in the given branch of production and hence figures as an element in the normal expense of production.

3. In addition to the *extensive* margin there may be, and usually is, an *intensive* margin, that is, a use of land resulting from an additional investment of labor and capital on it which affords no rent. The intensive margin of cultivation is always a no-rent margin.

4. Rent is measured by the method of differences starting from the no-rent land margin and proceeding from grade to grade until the best and most favorably situated lot for the purpose that is economically most important is reached. In the aggregate it is the money equivalent of the surplus product due to the superiority of the land

to which it is credited over the poorest land turned to industrial account at the no-rent margin.

5. When best land is superabundant, as is the case in some newly discovered and sparsely settled regions, rent does not arise.

6. If the law of diminishing returns did not apply to land, it would not arise, as then one piece of land would serve all purposes for an indefinitely large population.

7. The income yielded by permanent improvements on land obeys the same law as income ascribable to the land itself.

8. The price of a piece of land, together with permanent improvements embodied in it, is calculated by capitalizing its net money rent at the current rate of interest. A falling rate of interest tends, therefore, to enhance the land item in the inventory of a community's wealth.

It is perhaps unnecessary to point out in conclusion that an *explanation* of rent is a very different thing from a *justification* of its payment to private land-owners. The assignment to land-owners each year of hundreds of millions of dollars for services which not they but their lands render has been vigorously criticized as socially unjust and inexpedient. Among the Plans of Economic Reform discussed in a later chapter a prominent place is given to the remedy for this situation proposed by the late Mr. Henry George, the "Single Tax."

#### REFERENCES FOR COLLATERAL READING

\* *Marshall*, Book VI., Chaps. IX. and X.; \* *Seligman*, Principles of Economics, Chap. XXIV.; \* *Carver*, Distribution of Wealth, Chap. V.; \* *Pierson*, Principles of Economics, Part I., Chaps. II. and III.; *Nicholson*, Principles of Political Economy, Book II., Chaps. VIII. and IX.; *J. S. Mill*, Principles of Political Economy, Book II., Chaps. VI.-IX. and XVI.; \* *Johnson*, Rent in Modern Economic Theory, an Essay in Distribution.

## CHAPTER XI

### DISTRIBUTION: WAGES

89. The Wages Question and What it Involves.—*Wages*, as the term is used in economics, *include all earnings assigned to men for their work, from lowest piece wages to highest annual salaries and "wages of management."* The problem of explaining such earnings is more complex than that of explaining rent because it has to do more directly with living men and women. Like the latter it involves an explanation of differences in earning power among different factors in production. In the United States some workers receive as compensation for their work not more than forty cents a day, while others are paid salaries of \$50,000 a year and upwards. Such differences must be accounted for in a theory of wages. In the case of rent an explanation of differences in the shares assigned to different pieces of land is a sufficient explanation of the phenomenon because these differences are measured from marginal land, which affords no rent.\* The same is not true in the case of wages. Marginal workmen earn something, and after all differences in earnings have been explained it still remains to account for marginal or least earnings. Another cause of difference between the two problems is that while the land supply of a country is relatively fixed and unalterable, its labor supply or its working population is constantly changing. The continuance year after year of high rents for certain pieces of land and of low rents for others, excites no surprise, but

\* The circumstances which determine the location of the margin of cultivation must also be explained, of course. Cf. Chapter XIII.

the continuance of differences in wages seems to need special explanation. Why, as generation follows generation, are not all men molded through an evolutionary process to one common type, so that differences in earning power are eliminated? This is a third distinct question presented by the wages problem. The present chapter is confined to an explanation of differences in rates of wages and of the reasons for the perpetuation of such differences. The explanation of the rate of pay that goes to marginal workmen follows in the next chapter.

**90. Differences in Wages are Explained like Differences in Rents.**—Most differences in rates of wages may be explained in the same way that differences in rent are explained. The demand of consumers calls for the production of certain goods. Entrepreneurs, taught by the industrial experience of the past, determine how the available productive factors shall be correlated for the purpose of satisfying so far as possible this demand. The organization of industry, which results, calls for workers of different capacities for different tasks, just as it calls for different grades of land. These capacities are graded according to their economic importance, which depends, on the one hand, upon the field there is for their exercise and, on the other, upon the number of men possessing them that are available. Having in mind present methods of production and the present working population of the United States, we may distinguish the following five grades of workers: (1) men having superior capacity for planning and carrying out large industrial undertakings, good administrators and talented artists and professional men; (2) men competent to succeed in smaller undertakings or to administer large affairs as subordinates, artists and professional men of average ability and highly skilled mechanics; (3) men trained for ordinary clerical or mechanical labor; (4) men without special training, but having the requisite strength and endurance for manual labor; (5)

men lacking some of the mental or physical qualities essential to continuous labor of any kind. This classification is illustrative rather than exhaustive. To be complete it would have to recognize hundreds of different grades of productive capacity instead of five, and to be repeated for each territorial division of the country. It is intended to include only economic men and women, and not the unfortunate dependents who are incapable even of the humblest self-support.

Just as in the land scale the area adapted by situation and other qualities for the most important industrial uses is exceedingly limited, so in the scale of workers the number of men fitted for the highest grades of labor is very small. In each branch of production and in each profession in every community some one man is found at the top. Unique capacity may not be the only cause of the ascendancy of such men, but unless it is present they will not be able for any length of time to hold their positions. Below the men of highest capacity for their chosen work are others of inferior ability, down to the marginal men in the group who find it just worth their while to continue to serve in their particular positions rather than to take up alternative employments of what we have called grade 2. The earnings of the abler men in the group are determined by the comparisons that are constantly being made between their efficiency and that of the marginal men, who are just induced by their pay to stay where they are and not to turn to other occupations. Superior men receive the pay of the marginal men and in addition a differential corresponding to their superior efficiency.

The earnings of workers in the lower grades are determined in the same way as those of men in grade 1. Competition acting through, and also upon, entrepreneurs, tends to assign to each worker above the margin in grade 5, wages made up of both a marginal and a differential element. The marginal element is what the poorest worker

in the group could earn in the best-paid alternative employment open to him. Unless this at least is paid, the alternative occupation will be preferred and the scale will have to be readjusted. Here, as in the case of pieces of land, individuals without any power of substitution, but who are proficient in their special tasks in comparison with others doing the same tasks and having such a power, are as well off as though they had it themselves. For example, if of a number of college professors receiving salaries of \$4000 a year each, some could earn as much or more in business positions and were hesitating whether to make the change, their power of substitution would serve to oppose effectually any effort to reduce professors' salaries even though the others were quite unfit for any other kind of high-grade work than that they were doing.

In addition to this marginal element there is a differential element corresponding to the superiority of each worker in his grade. In practice the determination of this differential element in wages is a complex process except where piece-wages are paid, when it adjusts itself automatically. There is a tendency for whole groups of workmen, especially those organized in trade unions, to demand uniform wages. This policy prevents employers from hiring workers who do not come up to a certain standard of efficiency, but it also prevents superior workmen from receiving the differential wages to which they are economically entitled. In the occupations in which uniform wages for all workmen of each grade prevail, however, the work is usually so simple that individual differences count for relatively little and the differential wages which would result if competition were entirely free are a negligible element.

**91. Complications in the Grading of Workmen.**—The above analysis implies that the world's workers may be arranged in a gradually descending scale and that there are no breaks separating adjacent individuals and classes.

It is assumed that men doing the same kinds of work may be compared readily, so that the differential wages to which they are entitled may be determined; also that the marginal men in each employment are just held where they are by the payment of as high or slightly higher wages than they could earn in alternative employments. While this is true as a general picture, it must be admitted that the step from one employment to that next higher in the scale is often a long one. This is particularly the case with the step from the tasks of unskilled to those of skilled workers and with that from skilled manual workers to brain workers. Instead of saying that there is one scale of workers it would be more accurate to say that there are three different scales. The scale for brain workers begins at the highest point and breaks off not just where the scale for skilled manual workers begins, but somewhat lower. That is to say, the compensation of brain workers of the lower grades is no greater than that of manual workers of the higher grades. In the same way the scale for unskilled workmen, which begins low down, runs parallel to the scale for skilled workmen of the lower grades for a time and then continues to the lowest margin. Unskilled workmen of the higher grades earn as high wages as skilled workmen of the lower grades. It follows that the alternatives open to brain workers towards the lower end of the scale are a lower grade of brain work or a comparatively high grade of skilled labor, and those open to skilled workmen of low grade are still inferior skilled or comparatively high-grade unskilled labor.

Another qualification that should be added to the analysis of the preceding section refers to the assumption that the least efficient or marginal workers in each group have alternative occupations which maintain the level of their earnings. This is usually but not always true. Just as it frequently happens that men who are superior in their given branch are competent to do nothing else, so it some-

times happens that men competent to do nothing else are at the very margin of efficiency for the work they perform. The earnings of such marginal men are fixed by a comparison of their work with that of abler men in the same branch of production to whom alternative branches are open. The options of the latter fix the return for that class of services to all the workers in their group. In extreme cases, as, for example, in the sweating industries, it sometimes happens that a group of workers competent to do all of the work of a given sort for which there is a demand are competent to do only that kind of work. Under such circumstances competition within the group may reduce wages to a starvation level and keep them there until the demand for the product increases or the number in the group is reduced.

**92. The Explanation of Differences in Rates of Wages Generalized.**—The assumption that the working population of a country like the United States is divided up into a few groups is helpful, but, as already stated, the actual number of groups is legion. In recapitulating the explanation of differences in wages it will be well to describe the labor market with all of its complexities. On one side, then, is the scale of tasks to be performed, determined in part by the demand of consumers for goods and in part by the organization of the productive factors adopted after generations of industrial experiment. On the other, is the working population divided up into hundreds of different groups corresponding to the diverse tasks to be performed. The wages paid to those performing the tasks highest in the economic scale are high. They must be so to keep such men from other tasks they might undertake and also to induce them to serve one employer rather than another in their particular tasks. The former possibility fixes a marginal wage which all men performing the given sort of work must receive. Competition among employers adds to this marginal wage a differential element, measuring roughly

the superiority of the better men over those who are just good enough to be retained in their positions. As the scale descends from group to group similar relations are found to prevail at every point. Each man's wages contain a marginal element determined by his own power of substitution or by that of some other worker in the same group. If he is superior to the marginal men of his group, his wages will be higher by a differential element roughly gaging his superiority. If inferior, as sometimes happens, his differential will be in the form of a deduction from the wages which more capable men, doing the same sort of work and with the power of substitution, receive.

At the lower end of the scale marginal wages will be received which are not determined by what is paid in alternative employments because there are none, or at least none in which workers are actually employed. From these lowest wages, which are still to be accounted for, all higher wages are at last analysis measured. They are a minimum to which the differential in the lowest group is added to determine the marginal earnings enjoyed in the next higher group. To this another differential is added in the next higher group to determine the next higher margin, which figures in turn with another differential in determining a third margin. Thus by successive steps, like a flight of stairs broken by frequent landings, the highest earnings of all are finally attained. In this explanation the word, "determine," is used, it should be clearly understood, in a relative sense. The ultimate determinants of wages—the prices consumers are willing to pay for the products of industry, the organization of the productive factors, etc.—are not here under consideration, but only the influences which relate to one another the different rates of wages, from highest to lowest, which constitute the prevailing wage scale.

93. Influence of the Immobility of Labor on Wages.—Competition tends to bring the wages of workers having

the same industrial qualities to a level within each labor market, just as it serves to cause identical goods within a goods market to sell for the same prices. A labor market is, however, more restricted than a goods market. As Adam Smith long ago remarked, "a man is of all sorts of luggage the most difficult to be transported." The free movement of workers from positions where they are ill paid to positions where they are better paid, which is essential to free competition, is confined within narrow territorial limits. Ties of love, family associations, habit or sheer inertia hold most men to the localities in which they were born, despite the allurements of higher earnings in other places. There is, to be sure, a type of man to whom the attractiveness of new experiences in new surroundings is even greater than that of home, and in countries in which this type is common competition among workers is active over a wide area, with less wide differences in the rates of wages paid to workers of the same efficiency in different regions as its result. But even in the United States, where, according to the census returns, some twenty-five per cent of the people live in other States than those in which they were born, this type is rare, especially among workmen of the lower grades, and differences in wages among different sections persist for many years. These differences would doubtless disappear in a few generations if new regions were not constantly being opened up and if new methods of production calling for a different distribution of the working population were not constantly being introduced. But so long as these changes occur on any considerable scale differences in wages may be expected to continue. Improvements in means of transporting workers and their belongings and of transmitting intelligence tend to widen the labor market and may in time make it as wide as the whole country. There seems little likelihood, however, that the barriers that now oppose the free movement of population among different countries, and by so doing perpetuate

differences in rates of wages among nations, will be overcome for many centuries. Economists describe the unwillingness of workmen to seek the market which promises the highest wages as the *immobility of labor*. This immobility must always be kept in mind as a chief circumstance preventing that distribution of the labor force of each country, and even more of the whole world, which would yield the largest productive results. From the point of view of distribution it causes some labor markets to be over-supplied relatively with the different grades of workers for which there is a demand and forces such workers to content themselves with proportionately lower wages.

**94. Competition Tends to Equalize Efficiency-Wages, not Time-Wages.**—In judging of the extent of differences in the rates of wages paid in different localities care must be taken to compare workers of equal degrees of efficiency. From the point of view of the entrepreneur it is not the time or effort of the worker for which wages are paid, but the work done. He is interested not in the wages per hour, per day or per week of his employees, but in the cost per unit of what they accomplish. If of two workmen working side by side one accomplishes in a given time twice as much as the other, his wages should be twice as high to make the cost of his labor to his employer the same as that of the other workman. Free competition in the labor market tends to equalize the cost of labor or *efficiency-wages*, but not *time-wages*, except for workmen who are equally efficient. The industrial world presents many examples of differences in wages paid for the same kind of work due to differences in the efficiency of the workmen. The very low earnings of the Indian coolie, for example, are due in part to his very low standard of efficiency in comparison with workers of the white race. Even if the congestion of population in India could be relieved the low industrial efficiency of the people would remain a cause of relatively low wages.

**95. Other Causes of Differences in Money Wages.**—Thus far, in considering the more important reasons for differences in wages, we have assumed that the money return is the only inducement which controls the competition of workmen. If this were the case competition would, as has been stated, tend to make the earnings of workers of equal efficiency the same in each labor market. But, as a matter of fact, men do not consider the money return which an occupation promises merely, but all of the advantages and disadvantages connected with it. The principal other considerations which offset and consequently help to perpetuate differences in money wages are the following:

(1) It is not money wages, but real wages, that are compared, and the latter vary with the expensiveness of living in different localities. In country districts the goods which wage-earners of the lower grades consume are usually cheaper than they are in cities. Hence low money wages in the country may stand for the same real wages as high money wages in the city. An equally favorable comparison may be made between the cost of living in a warm and in a cold climate. In the former houses need less to be heated, fewer clothes and less food suffice and the number of free goods is larger. This is one circumstance tending to keep money wages lower throughout the Southern States in the United States than they are in the North.

(2) Some occupations require longer apprenticeship and more expensive training than others. In comparing different occupations men normally take account of the time and capital that must be invested in preparatory training, and unless the earnings in the industry requiring special preparation promise to be large enough to repay them for the investment, they will not make it. In practice capital invested in training affords a very high return because so many of those who might benefit most from training are too poor to obtain it.

(3) Occupations differ in the ease or difficulty of the work required. The harder and more disagreeable the work the higher must the wages be to attract men from easier tasks. This does not mean that those who do the most disagreeable work are the ones who are most highly paid. It often happens that men who do such work have not the option of doing something easier, and when this is the case their earnings may be very low. Whenever they have such an option, however, the wages paid for the most arduous toil must fully make up for the difference or it will fail to attract its quota of workers.

(4) Some positions are more dangerous than others and must offer a premium to cover life and accident insurance, in addition to mere wages, to attract workmen from safer trades.

(5) The chances of success and the rewards of success are different in different occupations. In the professions, especially, "nothing succeeds like success." The more clients or patients a man has the more eagerly he is sought by additional clients and patients. It results from this that successful professional men are as a rule successful even beyond their deserts. The hope of similarly large incomes attracts into professional callings more men than the businesses require. This reduces the average earnings in these occupations. In the United States professional men undoubtedly receive smaller average incomes than do men of equal ability and training engaged in commercial enterprises, and partly for the reason just given.

(6) Some positions are held in high esteem and offer social advantages to compensate for lower earnings. This is true usually of professional work and serves, like the previous influence, to depress the money earnings of professional men.

(7) The regularity of employment must always be considered. Trades like those connected with building, which give employment only part of the year, must, to equalize

advantages, offer higher day wages than those which occupy men continuously.

(8) The chance of advancement and promotion must also be taken into account. Employments which lead to nothing should afford better pay than those having educational value and serving as steps in a gradual ascent to higher positions.

These and other similar considerations will readily be accepted as reasons for differences in wages that are independent of differences in men. Taken together they come so near to explaining all differences in wages that some writers have assumed that but for them competition would in time bring the money wages of all grades of workmen to one uniform rate. This would certainly be true if competition were perfectly free and equal, that is, if all men were sufficiently alike to turn readily to the occupations that offered the largest returns. Under such circumstances the working population would move away from industries which paid low wages and towards industries which paid high wages, until the decreased labor supply in the former advanced earnings and the increased supply in the latter reduced them to the uniform rate. But, as we have seen, men are not alike in their industrial qualities. We must now inquire why the progress of evolution does not make them alike by gradually eliminating all but those of the highest industrial type.

**96. Influence of Heredity and Education in Perpetuating Differences in Capacity.**—A complete answer to the above question would carry us outside the field of economics into that of biology. Men are unlike, in part, because they are born so. And though the struggle for existence tends to eliminate types so unusual as to be incapable of self-support, within the limits fixed by the necessity of survival, hereditary differences in capacity seem to be transmitted generation after generation without appreciable check.

If heredity were the only factor in determining character and capacity, the adjustment of the supply of workers of different grades to the demand for them would be largely outside of society's control. But most students agree that education, which includes all of the formative influences acting upon human beings from without as they pass through life, is an equally important force. Adam Smith went so far as to say that "the difference between the most dissimilar characters, between a philosopher and a common street-porter, for example, seems to arise not so much from nature as from habit, custom and education." A similar view was expressed recently by a Chicago judge who had had much experience in dealing with youthful criminals. When asked if he thought that his own children would have been criminals if they had been brought up in criminal surroundings he replied: "I don't think so, I know it." Except as regards abnormalities both in the direction of genius and imbecility the view that "habit, custom and education" have more to do with differences in men than "nature" seems to be justified by observation. In any case it is chiefly through education that men act in their efforts to fit their children for industrial life.

**97. Differences in Capacity Closely Connected with Differences in Standards of Living.**—Education being such an important influence in molding industrial capacity, a partial explanation of differences in capacity must be sought in differences in the educational opportunities that are offered to the children of different families. Notwithstanding the self-sacrificing devotion of nearly all parents to the interests of their children and notwithstanding improvements in free public educational institutions, such differences are still great, even in the United States. Their perpetuation is due in large measure to the different *standards of living* which control the conduct of different industrial classes. By the standard of living is meant *the mode of activity and scale of comfort which a person has*

*come to regard as indispensable to his happiness and to secure and retain which he is willing to make any reasonable sacrifice, such as working longer, or postponing marriage.*

The influence which differences in standards of living have on the educational opportunities which children enjoy may be observed on every side. Compare, for example, the lives of typical children of well-to-do parents with those of the children of ordinary manual laborers. The former enjoy, in infancy, the watchful care of intelligent mothers and the best of medical attendance in times of illness. They are less apt to be forced in their development and more certain to be supplied with nourishing food, pure air and the other requisites to healthful growth. Arrived at school age, unless the public schools in the locality are superior, they will be sent to less crowded private schools. Even more important is the fact that the sons of the well-to-do are under no pressure to leave school when they attain the age of fourteen or fifteen, because their earnings are not needed to swell the already ample family income. They will go through the high-school, at least, before choosing their occupations, and they are very likely to take courses in college and even subsequent technical or professional courses if they have a bent in either of these directions. At length, arrived at the period when they are ready to enter some regular occupation, family influence will usually be able to command favorable openings for them and the same influence will often facilitate their advancement. Meantime the standard of living of their parents has impressed itself upon their minds and characters. They have learned to regard a large income as essential to well-being and to appreciate the advantages of property. Though the sons of well-to-do parents sometimes show a tendency to recklessness when released from the restraints of school life, most of them learn prudence without ever having tasted the fruits of improvidence. They know that a certain income

is indispensable to what they consider decent single existence and that a somewhat larger income must be assured before marriage is to be thought of. Young men mindful of the expenditures of their girl friends are restrained by a sense of chivalry from proposing marriage until they can provide advantages at least equal to those enjoyed at home. On their side young women in the group have definite ideas in regard to the cost of maintaining a household and are quite as prudent in their attitude towards matrimony. In consequence rash matches among young people of this class are few, and young men are usually well established before they incur the responsibility of providing for a family. This postponement of marriage results in a low birth-rate for the class as a whole, which, by lessening the number trained for the higher professional and industrial positions, helps to maintain the earnings which holders of such positions are able to command.

Very different from this is the life history of typical children of the manual laboring class. In consequence of early marriages, facilitated by the fact that manual laborers attain their full earning capacity at the age of nineteen or twenty, children come in this class before the parents have themselves reached maturity. Their number, and the rude way in which the family is compelled to live, prevent the mother from giving them the attention that their best interests demand. As these children approach the age when they can go to school they are allowed to spend more and more time on the streets and to acquire that precocious knowledge so destructive of the idealism natural to childhood. In school their progress is retarded by the lack of that stimulus and encouragement on the side of parents that is so helpful to children reared in more fortunate circumstances, and, just as they are getting old enough to form judgments for themselves, their help is needed at home, or jobs are secured for them, and the formal part of their education is brought to an abrupt close. In the choice

of their occupations immediate earnings are likely to be determining and consequently, instead of being apprenticed to skilled trades, they more often than not follow their fathers and become manual laborers. Made bread-winners thus early in life, they are apt before they are twenty to find the restraints of home irksome, and to resolve to create homes for themselves as soon as their earnings come up to the low standard to which they are accustomed. Acting on such resolutions they follow in the footsteps of their parents, as their children are likely to follow in their footsteps. Thus the children of manual laborers, like the children of the well-to-do, are largely influenced in their life careers by the standards of living to which they happen to be born.

**98. Inequalities in Educational Opportunities must be Removed by Community Action.**—A more complete study of the characters and habits of different groups of workers would confirm the conclusion suggested by the above comparison, that the persistence of differences in industrial capacities among individuals is due chiefly to differences in educational opportunities which are due in turn to differences in standards of living. But, it may be asked, if education is so important a cause of the differences in the earning powers of different men, and if acquiring education is simply one way of investing capital for a future return, how does it come about that more capital is not invested in this way? The answer is simple. Those to whom the education would be invaluable are too young or too ignorant to appreciate the fact or are without the capital to invest. Their parents are also without capital and have, moreover, a less direct personal interest in the result. Men with capital, on the other hand, do not invest it in the education of other people's children, except as a charity, because there is no form of contract under which they could claim a part of the return. Those needing education cannot, as minors, legally contract, nor can their parents bind them,

except within certain limits, during the period of their minority.

It follows from the above considerations that for all but the children of the wealthy such education as is enjoyed must be public and free. For the community as a whole, the investment of capital in educational opportunities tending to add to the industrial capacity of boys and girls is a certain means of adding to the collective wealth. Capital so used, especially to inculcate higher standards of living and efficiency among children of the poor, yields a princely return and will continue to do so until the present inequalities disappear. It is therefore to the community, and to improvements in the free schools, free colleges and free universities that we must look for the removal of the disadvantages under which children of the poorer classes now labor. To remove them completely it will be necessary not only to improve schools, colleges and universities covering all branches of technical and professional training, but to raise the standards of parents so that they shall be eager to have their children enjoy the best advantages and to provide in some way for the maintenance of children whose parents cannot afford to support them during their years of study and preparation. The mere mention of these needs re-enforces what has been said of the present lack of equal educational opportunities.

Summing up the results of our analysis, we must conclude that the industrial population consists of various groups of workers whose differences in fortune and in standards of living are reflected in unequal educational opportunities which serve to perpetuate, generation after generation, the differences in wages explained in previous sections. The picture drawn appears somewhat exaggerated for the United States at the present time, because the country is comparatively new and undeveloped. The exploitation of natural resources still offers a wide field for the adventurous and prevents, while it continues, that rigid

stratification into economic classes that is found in the older countries of the world. But such a stratification already appears in the United States and it will show itself more and more clearly as the natural resources of the country come more completely under private ownership, unless the tendency in this direction is successfully opposed by a broad and vigorous social policy. In spite of it there are even in the older countries referred to many individual exceptions to the rule that children remain in the economic class to which they were born. Persons of great native ability rise to positions suited to their capacities despite all obstacles. On the other hand, all advantages seem wasted on other persons who from innate stupidity or perverseness are incapable of deriving benefit from them. These exceptions are of much more significance to the moralist than the more commonplace careers that have alone received attention in the preceding analysis. They justify the familiar assertion that each one's success in life depends mainly upon himself, but they do not alter the more fundamental truth that the sort of self one is depends upon heredity and education and that differences in educational opportunities are a chief cause of the differences in wages which it is the task of economics to explain.

**99. Relation between Wages and Other Shares in Distribution.**—The causes of differences in rates of wages and of their persistence, generation after generation, have been explained in the preceding sections and it remains now to account for the earnings that are enjoyed by marginal workmen, which are the minimum from which all higher earnings are measured. The thesis that we have proposed to defend is that under conditions of free, all-sided competition the earnings of marginal, as of other, workmen will correspond accurately to the contributions which they make to production. To gage this contribution we must pass now to the discussion of interest, the last share in distribution. The different factors in production co-

operate in all productive processes. The product is a joint-product and we can determine the share of it that is economically ascribable to each factor only after we have clearly perceived the basis on which the claims of all of the other factors rest. In the next chapter we have to explain interest and differences in rates of interest by an analysis similar to that we have applied to profits, rent and wages, and then to consider how the comparisons are made by which the proportionate share of each factor is determined.

#### REFERENCES FOR COLLATERAL READING

\* *Clark*, Essentials of Economic Theory, Chap. VIII.; \* *Seligman*, Principles of Economics, Chap. XXVI.; \* *Fetter*, Principles of Economics, Chap. XXIII.; \* *Carver*, The Distribution of Wealth, Chap. IV.; \* *Bullock*, Selected Readings in Economics, Chap. XVIII. § 3; \* *Marshall*, Principles of Economics, Book VI., Chaps. III.-V.; \* *Taussig*, Wages and Capital, Part I.; *Schoenhof*, The Economy of High Wages, Part I.; \* *Pierson*, Principles of Economics, Part I., Chap. VI.; *Thompson*, The Theory of Wages and Its Application; \* *Adam Smith*, Wealth of Nations, Book I., Chap. VIII. and Chap. X., Part I.

## CHAPTER XII

### DISTRIBUTION: INTEREST

100. **The Interest Problem and What It Involves.**—Interest has already been defined as what is paid for the use of capital. From the point of view of distribution it is *the share of income that is assigned to capital goods, or more accurately to the owners of such goods, for the part these play in production.* The great variety of capital goods and the diversity of the services they render were discussed in a previous chapter (Section 46). As there explained (Section 42), the creation of capital goods requires, in addition to the factors involved in all production, saving, abstinence and waiting. Those who convert their incomes into capital instead of spending them contribute to production in these ways just as truly as do workmen by their activities. And just as “labor in and for itself is not valuable” but only “because through it valuable goods are produced” (Section 59), so capital goods are only valuable because they too assist production.

The problem of interest, like the problem of wages, is threefold. First, the phenomenon itself must be accounted for, that is, it must be explained why from the gross money returns of industry there is normally assigned to the owners of capital goods, over and above the replacement fund which makes up for any depreciation in value which these goods sustain, the share or income which we have called interest. Second, differences in the proportionate shares, or in the rates of interest, assigned to the owners of different stocks of capital goods must be ac-

counted for. Third, the causes determining the marginal or current rate of interest must be explained.

101. **Explanation of the Reasons for the Payment of Interest.**—Touching no part of economic theory has there been so much discussion or difference of opinion as touching the reasons for the payment of interest. It would carry us beyond the scope of this work to enter into the subtleties of this controversy. We must content ourselves with trying to formulate an explanation that is logically adequate and that, at the same time, will be helpful in connection with the discussion of practical questions.

A very common and seemingly simple form of the interest problem is presented by the payment of interest on money loans. Why, for example, are savings banks willing, not only to become the unpaid custodians of money deposited with them, but also to return with each deposit an additional sum, \$104, say, at the end of a year, in place of the \$100 originally received? Everyone knows enough about the business of savings banks to answer this question correctly. They are willing to pay moderate rates of interest because they are able to loan the money received on deposit at higher rates to the business community. Interest on money loans is consequently a derived form of interest.\* To explain it fully we must go behind it and explain why business men will pay interest for the use of borrowed money. The answer to this second question is also easy. They do so because they know that by converting the money borrowed into the capital goods appropriate to their businesses they can get back the interest promised and enough more to make the transaction worth while. This brings us then to the essence of the interest problem—to explain how it comes about that capital goods will normally earn something for their owners over and above the replacement fund.

\* Interest on money loans is discussed at length in the chapter on Credit and Banking (Sections 135 and 136).

As so often in our discussion of distribution, so now in explaining the phenomenon of interest, we must begin by asking the reader to oppose in his imagination the demands of consumers for consumable goods and the available supplies of the factors that co-operate in the production of such goods. Current methods of production assign a highly important place among these factors to capital goods—tools, machines, buildings and the other produced means to further production. By their aid the fruitfulness of human industry is enormously increased. This is equivalent to saying that any increase in the supply of capital goods that is available will increase the volume of consumable goods that can be produced, as any decrease in the supply will lessen production. And this increase in the output of goods that results from the aid which capital goods render to production includes normally an increase in the aggregate value of such goods. For, although an increase in the supply of any one good may cause such a decrease in its value, because of its diminished marginal utility, that the larger is actually worth less than the smaller supply, this cannot conceivably be the case when the change in question is an increase in the supplies of all goods. To put the argument in terms of prices, increasing the supply of one good, like wheat, might so lower its price as to make the larger worth less than the smaller supply. But if the same influence that affected the supply of wheat affected similarly the supplies of all other goods including that of gold, the good in terms of which prices are expressed, there is no reason for expecting the increase in the supply of wheat to lower its price at all. Except for some unusual circumstance that would not invalidate the argument, the larger supply of wheat would command a proportionately larger aggregate price. And what would be true of wheat would normally under the assumed conditions be true of all other commodities, or the aggregate money re-

turn and the money income would be increased in proportion to the increase in the output of goods. It is just such an increase in the supplies of goods of all descriptions that normally results from an increase in the supply of capital goods. Capital aids not this nor that branch of production only but all branches of production, and as its supply increases the pressure of competition causes it to be diffused over the whole industrial field. We are therefore warranted in concluding that the increase in production which is to be credited to capital goods is not merely an increase in the volume of commodities but an increase in the aggregate price to be obtained for the larger volume.

We now have before us all the data necessary to the explanation of interest. We may formulate the explanation thus: *Interest is paid for the use of capital goods because the limitation on the supplies of consumable goods which makes them command prices in the goods market is followed back to its cause in the limitation on the supplies of the factors of production, including capital goods. The competition of entrepreneurs for the limited stock of capital goods, stimulated always by the knowledge that with the aid of such goods more can be produced, causes a part of the price to be obtained for the products of industry to be assigned to the owners of capital goods, just as another part is assigned to owners of land and another to workmen who contribute their services to the common result.* It should be carefully noted that according to this explanation a limitation of the supply of capital goods is one of the conditions necessary to the payment of interest. In the next chapter we shall consider more fully than we have yet done the causes of this limitation, and thus complete our analysis.

**102. Service of the Replacement Fund in Giving Mobility to Capital Goods.**—Differences in rates of interest, the second part of the interest problem, require explana-

tion because it is the tendency of competition to equalize the earnings of all kinds of capital goods within the same market for capital. This is accomplished largely through the agency of the replacement fund. As already explained (Section 43), some capital goods are highly mobile and may be assigned readily to the particular branch of production in which they are in greatest demand. Most capital goods, however, are more or less specialized and seem to lack the plasticity necessary to free movement and free competition. This is the situation as it presents itself to the observer taking an instantaneous photograph of capitalistic production. But instantaneous photographs of shifting, changing objects are seldom very lifelike. They fail to represent their essential characteristic, which is movement. To be understood, capitalistic production must be studied not as it appears at any particular moment, but as it appears over a considerable period of time. It is not an instantaneous photograph, but a "moving picture," or a series of successive impressions that is required. Every capital good has its distinct life history. By itself it has little mobility, but through the fact that it comes into being, wears out and is replaced, it allows great mobility to the capital transiently embodied in it. No capital good is ever called into being unless the investor or entrepreneur responsible for its creation believes that it will earn not only the current rate of interest on the sum invested in it until it is worn out, but in addition a fund for its own replacement. In the bookkeeping of the industrial world a part of the earnings of capital goods is regularly set aside to replace those goods. This constantly accruing replacement fund, which flows back to investors and entrepreneurs, is completely mobile. It appears as a certain amount of free purchasing power which may be used either to replace the capital goods in process of destruction with exactly similar goods, or to call into being quite different capital goods, as the judgment of the

entrepreneur may determine. At any given moment the amount of this mobile replacement fund is small. In order that delay and loss may be avoided, its destination must be decided upon even before it arises, and in consequence it seldom accumulates in the hands of investors and entrepreneurs, but merely flows through their hands on its way to embodiment in new forms of capital goods. Nevertheless the existence of this constant flow of mobile purchasing power makes possible the withdrawal of capital tied up in highly specialized forms of capital goods and its transformation into other forms of capital goods at a rate which only those familiar with the ups and downs of business can appreciate. How this facilitates the tendency of competition to smooth out differences in rates of interest in the same capital market must now be explained.

**103. Competition Tends to Bring Interest Rates to a Level.**—Consider first differences among different firms in the same branch of production. One firm has preceded all others in putting in some superior machine or other form of capital, and this gives it higher earnings until others gradually introduce the superior machines into their plants also.\* But competitors are always trying to keep their plants up to the highest point of efficiency. If inventions and improvements in processes were to cease it would take but a short time for the very best equipment to be introduced into all freely competing establishments. Those unable to modernize their processes would be forced into other industries. They could not sell at the normal price and continue to make profits equal even to a fair wages of management. Allowing time enough for the process, therefore, it is evident that in the absence of patents, or other monopoly conditions, the

\* These higher earnings were called "profits" in Chapter VIII., in conformity to business usage. In describing them here as "interest" we simply go a step further back and attach them to the superior capital goods to which they owe their existence.

earning power of capital goods in different competing establishments would be equalized.

But among different branches of production differences might still persist. Shoe machinery might, for example, be earning more than textile machinery. But if this were the case, one or both must be earning less or more than the current rate of interest for capital generally. If shoe machinery were earning more than the current rate, competing shoe manufacturers would tend to enlarge their plants to secure the extra interest on a larger investment. By so doing they would, on the one hand, make drafts on the country's free capital tending to enhance the rates of interest other entrepreneurs would have to pay to secure the capital needed to keep their plants intact, while, on the other, they would tend to depress the price of shoes by increasing the supply and in this way to lessen the total to be divided among all the shares in distribution in this branch of production. As the result of action and reaction the extra earnings of shoe machinery would disappear. If, on the other hand, the difference was due to the fact that textile machinery was earning less than the current rate in industries generally, the conditions would be favorable to a reduction in the number of textile plants and the gradual release of capital for other investments. This would tend to raise the price of textiles and give larger returns to textile machinery, while it at the same time reduced the relative earnings of capital goods in other industries by permitting a slight expansion. Thus among different branches of production, as in the same branch, competition is always tending to equalize the earnings of capital goods.

**104. Reasons for the Persistence of Differences in Rates of Interest.**—The above analysis of the tendency of competition helps to explain why in actual practice differences in rates of interest persist. To the extent that the mobile replacement fund fails to multiply forms of

capital the moment they are needed, or to withdraw other forms the moment they are superfluous, there is opportunity for differences in the earning power of capital goods. The circumstances which cause such differences to arise will now be briefly indicated.

The most familiar ground for differences in the return from different investments is the presence of monopoly. The monopolist deliberately restricts the output of the monopolized product so that the returns to the capital and labor he employs exceed those to be realized in competitive industries. We have designated the surplus return as monopoly profit, but since it frequently comes to investors in the form of dividends it is often thought of as a part of interest. In a sense monopoly profit is a part of the share of income ascribed to the capital goods which figure in monopolistic production. This is particularly true when the basis of the monopoly is a patent. Patented machines do earn the larger returns which they enable their owners to secure. At the same time the reason for the larger earnings is always the monopoly, and it conduces to clearness to consider dividends derived from monopolistic enterprises as made up in part of interest and in part of monopoly profit.

The close resemblance of interest on permanent improvements to rent has already been commented upon. Such improvements will not be made unless there is good reason to think they will afford at least the current rate of interest, but after they have been made the capital invested becomes a part of the land itself and receives income in obedience to the law of rent. If the anticipations of the investor are exactly realized, such capital goods afford an income corresponding to the current rate of interest, but only so long as industrial conditions remain undisturbed. Prospectively regarded such an income is interest, retrospectively it is rent.

Every specialized form of capital is subject to a certain

extent to the same limitations as permanent improvements. Consider, for example, a factory which it takes a year to build and which cannot, without considerable loss in value, be turned to account in another branch of industry than that for which it was designed. The investment of capital in such a factory will only be made in case there is good reason to expect that it will earn at least the current rate of interest. But before the factory can be available for production a year must elapse. In this time changes may occur. The prudent investor will hesitate to transform his free capital into a factory until there is a margin of prospective return over and above the current rate of interest to compensate him for the risk he incurs. It follows that until the earnings of specialized capital goods exceed, to some extent, the current rate of return on free capital such goods will not be multiplied. Competition among investors stops before the earnings of such goods are reduced to the general level. On the other hand, after the factory has been erected, the capital invested in it can neither be withdrawn nor allowed to remain idle without considerable loss to the investor. If industrial conditions change so that the share of income assigned to the factory diminishes, the investor must make the best of the situation. Instead of getting the interest he expected, or even the current rate on free capital, he may obtain only one-half the current rate or even less, and yet it may pay him better to keep the factory in operation than to close it or to try to turn it to some other use. Under such circumstances the earnings of specialized capital goods may depart widely and for considerable periods from the current rate of interest. In communities in which changes in the demands of the market and in the methods of production are constantly occurring, discrepancies of this sort may be so common as to obscure the fact that competition tends to establish one uniform rate of interest for all capital goods. When competition is free, however, this tendency

is always active, and even in a country as progressive as the United States it confines variations in most investments within narrow limits.

**105. Other Causes of Differences in Rates of Interest.**—Another cause of differences in interest rates results from the danger of accidental destruction to which some capital goods are exposed. Whenever this danger may be provided against by the machinery of insurance, the difference figures simply in the larger replacement fund which must be earned in addition to current interest by the capital goods affected. In many cases the danger is too irregular and uncertain to be insured against, and the increased interest needed to attract capital into the precarious investment depends upon the temperament of investors. Conservative people will be deterred by the fear of loss from investing at all in such enterprises. More reckless and optimistic capitalists may be induced to take large risks by the promise of only a slightly larger return than the current rate of interest.

In addition to the differences in rates of interest earned in different investments and by different kinds of capital goods, there are differences among different sections. Although much more readily transported to the best market than labor, capital also is timid about venturing far from its source. Capitalists usually feel that they can better estimate the risks involved in investments near home than at a distance. In consequence of this feeling capital tends to be concentrated in the centers where men of wealth live, and new and backward communities are able to command less than their proportionate share of the available capital equipment. Instead of there being one rate of interest on free capital in a country like the United States there are a variety of rates, ranging from the low rates found in the large cities and the manufacturing sections of the North and East to the high rates prevailing in the agricultural and mining regions of the South.

and West. A variation of from two to three per cent between the rates of interest regularly charged for equally good loans by banks in New York City and Arizona roughly reflects the difference in the earning power of capital goods in the two localities. As different sections are brought into more intimate business relations the supply of capital tends to distribute itself more equally over the entire industrial field and such differences become less marked. As in the case of wages, however, differences in rates of interest among different countries are likely to persist long after differences among different sections of the same country have become insignificant.

**106. Relation between Marginal Wages, Marginal Interest and the Other Shares.**—We are now ready to consider the relation between the current rate of interest for mobile capital goods, or the “marginal” rate, and what we defined in the last chapter as the marginal rate of wages. The thesis which we propose to prove (Section 63) is that, under conditions of free, all-sided competition, these rates tend to equal the contributions which the respective factors make to production. To simplify the discussion we may assume that competition has eliminated competitive profits, as it constantly tends to do, so that the reward of entrepreneurs is confined to their wages of management, which obey the same principles as wages generally. Monopoly profits are, of course, excluded from the problem since their very existence is inconsistent with the free competition assumed. Even were this not the case we should be justified in ignoring them since the wage and interest rates paid for workmen and capital goods in monopolistic enterprises are usually adjusted to the rates paid in competitive businesses. Entrepreneurs controlling monopolies wish, as much as other entrepreneurs, to secure their productive factors as cheaply as possible. They could afford often to pay very high wages and interest at the expense of their monopoly profits, but in practice

they usually pay only a little if at all higher rates than those fixed by general, that is, competitive, conditions. It follows that the explanation of wages and interest that applies to competitive industries will apply also, so far as these shares are concerned, to monopolistic industries.

The explanation of rent given in Chapter X. leaves its relation to wages and interest in no uncertainty. It is a differential return due to the superiority of the land or other natural agent used in the given productive enterprise in comparison with marginal land devoted to the same purpose. At the final margin of production it does not appear at all; at other points it takes the surplus due to natural conditions and in no wise affects the shares, wages and interest. Within each labor market the same rates of wages, approximately, are paid for the same grades of labor, whether rent happens to be another item of expense which the entrepreneur incurs or not. The same statement holds true of each market for loans of capital. It follows that an explanation of the causes fixing wages and interest at the no-rent margin of production is a complete explanation. The same forces are active in every other part of the industrial field and serve to determine wages and interest in practical independence of rent.

With profits eliminated and rent explained in entire independence of the other shares, there are left to be analyzed the causes which determine the division of income between wages and interest. At the final margin of production in competitive enterprises the entire product is divided between these two shares, and before we attempt to explain the law of division it will be well to recall the influences which determine the amount of this joint return.

**107. Causes Determining the Size of the Joint Share of Labor and Capital at the Margin of Production.—**If the joint share which goes to labor and capital at the margin of production includes the entire product which free land, labor, capital and the organizing ability of entre-

preneurs produce at the margin, its size depends obviously upon all of the factors that were discussed in the chapters on Production. Of primary importance is the quality of the land and the natural agents which are used at the margin. In a country like the United States, which is abundantly supplied with land and natural resources in proportion to its population, the lands, mines, forests, fisheries, sources of water power, etc., which are used at the margin are rich and afford large returns to the labor and capital applied to them. Up to a quite recent period in the history of America, improvements in transportation facilities and the discovery of new sources of natural wealth have kept pace with the growth of population and of capital and the margin of production has been lowered but little, if at all. It has been from the first discovery of the country very much higher than the margin of production found in the more populous countries of Europe, and this has been a chief cause of the high earnings which labor and capital have commanded in the New World. Wages and interest have been high because labor and capital have been more generously assisted by nature at the margin of production where this assistance has been gratuitous.

Next to the location of the margin of production, the efficiency with which labor and capital are correlated in production is the most important influence determining the amount of their joint share. This depends upon the intelligence and enterprise of entrepreneurs. The United States is fortunate in this regard also. Its captains of industry compare favorably with those of any other country and it is doubtful if industrial organization is anywhere more highly developed. Through efficient organization labor and capital succeed in producing and earning more than they could if less intelligently directed.

Other factors influencing the result are the industrial capacity of workmen as individuals. The more ability

and energy they put into their work the larger will their return be. Equally important is the efficiency of the forms of capital utilized in production. If improved tools and machinery, convenient and sanitary buildings, etc., are the forms into which the community's capital is thrown, the returns will be larger than if poor implements and badly planned structures predominate. The efficiency of the forms of capital used depends upon the progress that has been made in invention and discovery. In this field, also, the United States compares favorably with other nations. Its capital equipment is not perhaps quite so large in proportion to its population as is that of some other countries, but it is up-to-date and efficient. By its aid the product shared between labor and capital in marginal industries is further increased.

Through these influences, and all of the others discussed in the chapters on Production, the joint share of income which goes to labor and capital is determined. If the conditions are favorable, as they unquestionably are in the United States, the joint share will be large. The terms of its division between labor and capital themselves determine whether wages will be high relatively and interest low, or interest high and wages low, or both wages and interest high together.

**108. How Marginal Wages and Marginal Interest Are Determined.**—That the joint share of wealth which labor and capital receive at the margin of production corresponds to what is there produced follows obviously from the foregoing analysis. It is the *product* of such labor and capital, not, of course, in the sense that it owes its existence exclusively to them, but in the sense that they are the only factors of *economic* importance. The part which nature and natural powers play in production at the margin is gratuitous and therefore, economically speaking, we are warranted in ignoring it. To make it clear that the individual share assigned to each factor in production

at the margin tends, in this same sense, to correspond to what it produces, we must notice a characteristic of labor and capital to which little attention has thus far been directed. Workmen and capital goods not only co-operate in production; they also compete. At some points in every industry entrepreneurs have the alternative of using certain grades of labor or certain forms of capital for the accomplishment of a desired result. Lifting may be done by capital goods in the form of elevators, cranes, etc., requiring only human guidance, or by workmen laboriously climbing ladders with loads on their backs. Moving may be accomplished by men trundling wheelbarrows or pushing tram cars, by means of horsecars, or by steam railroads. Similarly in manufacturing, the tool-equipped workman is ever a competitor of the automatic machine. Even in agriculture steam plows may be used in place of horse plows with a considerable saving in labor, and harrowing, planting, reaping and other processes may be performed through the use of machines of varying degrees of complexity, or by hand tools. In deciding between capital goods and workmen at these competing points, the guiding principle always acted upon by entrepreneurs is to choose that combination of factors which, in proportion to its efficiency, is cheapest. Workmen are substituted for capital so long as it pays to make the change. At other points capital goods are substituted for labor so long as this pays. Every such substitution tends to enhance the price that must be paid for the use of the preferred factor, since it involves increased demand for it without any change in its supply. It at the same time tends to lower the price that must be paid for the factor that is rejected. Its supply is increased without any corresponding increase in demand. In actual practice, since changes are constantly occurring not only in the quantities of labor and capital but in the methods of production and the kinds of capital used, these substitutions occur constantly and

the distribution of labor and capital is far from being at any one time what it is tending to become. If by some miracle all such changes should cease, it is not difficult to see that competition would go on, here causing the substitution of workmen for capital goods, there that of capital goods for workmen, until finally the supplies of labor and capital were divided among different branches of production and in each branch so that the largest possible productive result would be secured. This is the situation that competition *tends* to establish. If it should be established, which of course it never is in practice, capital goods would continue to be used for many purposes for which they alone were suited, and workmen would continue to be employed at many tasks which could not possibly be done by the most perfect machinery or other capital goods. At other points capital goods would be doing tasks that might be done by labor, while workmen would be doing things that might be effected through capital. For some of these tasks one or the other would be distinctly preferable so long as wage and interest rates remained as they were, and therefore they would be little involved in the substitutions made after changes ceased. In the case of others the choice between the factors at current rates of wages and interest would be a very nice one. Entrepreneurs would continue for some time to make substitutions at these points, and these substitutions would serve for some time to cause readjustments in wage and interest rates which would make further substitutions desirable. The range of these changes would contract steadily, however, until finally no further substitutions would be economically desirable, since both labor and capital would be fully employed down to what we may call the *margin of indifference*, that is to the point where both factors would be equally cheap at the prevailing rates of wages and interest. At this margin of indifference it would be possible to compare the shares of the product to be credited to the

respective factors and each would get the equivalent of what it produced. If it did not, that is, if less were paid to owners of capital goods than these goods produced, or to workers than they produced, either more would be paid to the other than it was worth or an extra profit would remain for the entrepreneur, and either alternative is inconsistent with the assumption that competition has perfectly accomplished what it is always tending to accomplish. *The law which determines the distribution of income between labor and capital is, therefore, that free, all-sided competition tends to assign to each the exact equivalent of what it produces at the margin of indifference.* At the margin of production, where the whole product is the joint-share of labor and capital, wages paid to labor will, under this law, command the same return in product as the same sum paid as interest for the use of capital goods. These marginal rates of wages and interest serve, as already explained, as standards to which rates of wages and interest for all kinds of workmen and capital goods are adjusted. In this way comparisons made at the margin of indifference control the shares in distribution at all other points.

The assumptions on which the above law rests may seem somewhat exaggerated, but they really involve no more than giving free play to competition and allowing time for it to work out its full effects. The efforts of entrepreneurs are constantly directed towards using capital goods only down to the margin of indifference on the capital side, and towards employing workmen only down to this margin on the labor side. To overstep it in respect to either is to incur loss, while on the other hand failure to push the use of the productive factors to this limit in each branch of production is to forego a profit that might otherwise be obtained. Thus in actual practice the use of additional capital goods here, and the employment of more workmen of a given grade there, or the withdrawal

of capital goods or the discharge of workmen, have for their purpose better conformity to the ideal arrangement of labor and capital that has been described. At any given time a rough approximation to the ideal towards which competitive forces are always straining is actually presented, and in every branch of production comparisons between the productiveness of quantities of capital and quantities of labor are being made by entrepreneurs and are determining their business decisions. The law of competitive distribution that we have stated is, therefore, the law to which actual distribution tends to conform.

#### *REFERENCES FOR COLLATERAL READING*

\* *Clark*, Essentials of Economic Theory, Chap. IX.; \* *Seligman*, Principles of Economics, Chap. XXV.; \* *Carver*, The Distribution of Wealth, Chap. VI.; \* *Marshall*, Principles of Economics, Book VI., Chaps. VI.-VIII.; *Hadley*, Economics, Chap. IX.; *Pierson*, Principles of Economics, Part I., Chap. IV.

## CHAPTER XIII

### VALUE AND DISTRIBUTION

109. Restatement of the Theory of Distribution.—We have now surveyed, in broad outline, nearly the whole field of consumption, production and distribution. Before we go on to consider the causes which control the supplies of workmen and capital goods in each industrial community and thus figure among the ultimate determinants of economic relations it will be well to restate, in general terms, the conclusions to which we have already come.

Goods are valued and command prices because they have utility and because their supplies are limited in comparison with the demand for them. From the side of consumers the law that controls prices is that the price of a good tends to correspond to its marginal utility measured in terms of money to marginal consumers. From the side of producers the law is that competition tends to bring about a correspondence between the price of a good and the expense of producing it to representative firms. Logically the explanation of the shares into which the aggregate prices paid for the annual products of industry are distributed might be worked out by taking either of these laws as a starting point and following it to its ultimate conclusions. We have preferred in this work to make the law of prices from the side of producers our point of departure.\* In pursuance of this plan we defined prices conforming to the expenses of production of representative firms as normal and explained monopoly and competitive profits as surpluses due to dis-

\* Cf. Böhm-Bawerk's *Positive Theory of Capital* for a brilliant illustration of the other plan of procedure as regards the share, interest.

crepancies between actual, or market, and normal prices. Having disposed in this way of departures from the normal, we turned next to the explanation of the shares that make up the expenses of production. Rent was explained as the differential return due to differences in the situation and quality of different pieces of land and natural resources, necessary to adjust the returns to labor and capital on superior to those on marginal lands. For competition always tends to hold wages for different grades of labor and interest for capital goods all over the industrial field at their respective levels. Rent is thus the share of the price of the larger product obtained on superior as compared with marginal land that may be claimed by the land-owner as economically due to the land, since the shares that labor and capital can claim as economically due to them are determined by what they can produce at the margin. In this sense we may say that rent is the share of the price that land produces. Finally, by means of the analysis just completed (Section 108), we saw that under conditions of free, all-sided competition, time being allowed for such competition to work out its full effects, the parts of the product at the margin of indifference due respectively to marginal workmen and marginal capital goods could be compared, and to each would be assigned the share of the price corresponding to its contribution to the product.

**110. Caution Against Unwarranted Inferences from the Theory of Distribution.**—Lest the true significance of the law of distribution to which our analysis has brought us be misconceived, it will be well to consider carefully certain conclusions that might seem to follow from it, but that really do not. First, then, although we have found it convenient to give great prominence to the tendency of competition to cause prices to correspond with the expenses of production of representative firms, nothing in our analysis would justify us in saying that these expenses *determine* prices. On the contrary, it would be nearer the truth to

say that prices, determined by the money equivalent of the marginal utilities of goods to marginal consumers, determine the expenses of production. But this statement also would fail to tell the whole truth. Prices are paid for goods because of limitations on their supplies. These limitations under conditions of free, all-sided competition are due in turn to limitations on the supplies of the factors of production—superior land and natural resources, workmen of all grades, capital goods. Thus if prices determine the expenses of production, the causes necessitating expenditures in production play a part in determining prices. The chain of causation is not straight, but returns upon itself in a circle. Each influence that needs to be considered acts and reacts upon all of the others.

Secondly, since we cannot logically say that the expenses of production determine prices, then neither can we say that a particular share in the expenses of production, such as wages to marginal workmen, determines the part of the price corresponding to it. When we assert that wages to marginal workmen tend to equal the price of that part of the product which is economically imputable to the labor of these workmen, we do not mean that the price of part of the product is determined by wages. The determination of price is a complex process and wages figure in it only as the limitation on the supply of labor is one of the causes of the limitation on the supplies of consumable commodities which causes them to command prices. The competitive bidding of entrepreneurs for the limited number of marginal workmen tends to raise the price or wages paid for their services to a level with the price of the part of the product imputable to their services. In this sense and only in this sense can we assert that competition tends to make wages equal what the factor, labor, produces.

A final misapprehension to be guarded against is that the law of competitive distribution which has been stated is a *justification* of such distribution. Economically speaking,

landowners may get only the equivalent of what their land produces, workmen may get the full equivalent of what their labor produces and capitalists may get only what their capital goods produce, and yet this may be a very unfair division of the product. It leaves entirely unconsidered two questions that are fundamental to any decision as to the justice of the system, that is, is there a fair division of opportunities for individuals to develop into efficient producers and is the private ownership of land and capital goods itself just? Our opinion touching the first of these questions was indicated in the discussion of the causes of differences in rates of wages (Sections 97 and 98). In answer to the second some views are advanced in the closing chapters.

The law of competitive distribution, as these three qualifications on conclusions that might be drawn from it suggest, is not the economist's last word touching any important problem. It is merely an aid towards an understanding of the complexities of actual industrial life in which monopoly and change are even more conspicuous than what we have designated as "normal" conditions.

**III. The Growth of Population in the Nineteenth Century.**—Before entering upon a discussion of the causes which control the growth of population or the supplies of workmen in different countries, it will be suggestive to examine the facts revealed by population statistics. Some of these are indicated in the following table:

GROWTH OF POPULATION, 1800-1900  
(000,000 omitted)

	1800-01	1900-01	Per cent of Increase
United States .....	5.3	76.1	1,326
Russia in Europe .....	40.0	110.0	175
Germany .....	25.0	56.4	106
Austria-Hungary .....	25.0	45.4	82
France .....	26.8	39.0	45
United Kingdom .....	16.3	42.0	158
Italy .....	17.5	32.5	86
Spain .....	6.0	18.6	210

The striking differences in rates of growth between the United States and the older European countries are readily accounted for by the wealth of undeveloped and even unappropriated natural resources that were available in the New World up to the very close of the nineteenth century. Through doubling itself on the average once every twenty-five to thirty years, the population of the United States is rapidly bringing the country, however, into the same situation as regards density that prevails in Europe, where the aggregate population little more than doubled during the whole nineteenth century. Even more interesting than the differences in rates of increase shown by a comparison covering the whole nineteenth century are those displayed by European countries in the last generation. Thus from 1871 to 1901 the population of Germany increased 38 per cent, that of the United Kingdom 32 per cent and that of France less than one per cent.

The source of these variations in the rates at which the populations of different countries grow is to be sought, of course, in the relation between their birth and death rates and between immigration and emigration. For our present purpose we may confine attention to the former, since immigration has no direct effect upon the population of the world as a whole, however much it may affect that of particular countries.

#### BIRTH, DEATH AND MARRIAGE RATES, 1871-1890\*

	Births	Deaths	Excess of Births over Deaths	Marriages
Austria .....	38.6	30.6	8.0	16.3
Germany .....	38.1	26.0	12.1	16.4
Italy .....	37.3	28.6	8.7	15.6
Holland .....	35.2	22.6	12.6	15.1
United Kingdom ..	32.6	19.9	12.7	14.4
Denmark .....	31.7	19.0	12.7	15.2
Belgium .....	31.0	21.4	9.6	14.2
Norway .....	30.7	16.9	13.8	13.7
Sweden .....	29.8	17.6	12.2	13.1
Switzerland .....	29.4	22.1	7.3	14.7
France .....	24.6	22.8	1.8	15.4

\* These statistics are taken from Mayo-Smith, *Statistics and Sociology*, Book I., Chaps. V., VI. and VII.

The preceding table gives the average birth, death and marriage rates \* of the principal countries of the world for which statistics are available for the years 1871-1890. Like the table on page 205 this also emphasizes the great differences that are found in different countries. Austria, Germany and Italy show the highest marriage and birth rates, but high death-rates in the first and last put them near the bottom of the list as regards the rates at which their populations are growing. The countries with the lowest birth-rates, France, Switzerland and Sweden, have very diverse marriage and death rates. Of the three, France combines with the highest marriage-rate the lowest birth-rate, while in Sweden the relation is just reversed, the lowest marriage-rate resulting in the highest birth-rate. Even more remarkable is the difference in the rates at which the populations of these two countries are growing. The low birth-rate of France is accompanied by an average death-rate which prevents the population from increasing as much as 0.2 per cent a year. In Sweden on the other hand the higher birth-rate is associated with a very low death-rate which causes the country to stand near the top of the list as regards the rate at which its population is growing. Such are the facts in reference to the growth of population in the principal countries of the world. We may now turn to the various theories that have been advanced with a view to showing that these facts obey definite social laws.

**112. Population Theories.**—Economists are still divided in their opinions in regard to the relative importance of the different influences that control the growth of population. In general they may be separated into three groups, according to whether they emphasize the physiological, the social or the economic factors which enter into the problem. Upon two points all are in substantial agree-

\* That is, the number of births, of deaths and of marriages for each 1000 of the population *per annum*.

ment: (1) Illegitimate births constitute such a small proportion of all births in modern communities that no serious error is involved in assuming that a more or less formal union precedes the begetting of children. (2) The age of the wife at marriage has great influence on the number of children to a family, the general rule being that the older the wife the fewer the children. These two propositions may be accepted as premises in all reasoning in reference to the population question.

The economists who make prominent physiological considerations in their discussions of population try to establish the general law that the reproductive capacity of animals stands in a definite relation to the complexity of their nervous organizations. The more highly evolved the organism, the smaller, it is contended, will be the number of the offspring. Even if this theory be true in its application to different orders of animals, including man, it remains open to question whether the subtle changes which are still going on in man's nervous organization can be shown to influence appreciably his reproductive capacity. Reasoning from analogy that because men beget fewer offspring than lower orders of animals, highly developed men and women must be less fruitful than those who are less developed is suggestive, but not conclusive. On the other hand, statistics of population have not yet been perfected to a point that makes a test of the theory in the light of the facts of experience possible. It must be regarded as an interesting hypothesis rather than as an established principle.

That the growth of population is controlled by social customs and standards is admitted by all students of the question. Among primitive peoples customs like that of exposing female children at their birth have a direct influence on the growth of population and may serve as substitutes for all other checks. Marriage customs also have the greatest influence. Other things being equal, polyg-

amous marriages are favorable to a rapid growth of population; monogamous marriages, on the other hand, tend to restrain such growth. Other customs, such as that requiring that the husband shall be able to provide a house for his wife, or that the wife shall have made with her own hands an elaborate trousseau before marriage, serve to postpone the period of marriage and indirectly to check the growth of population. As the customs and usages of different peoples are all molded to one common standard through international intercourse, the special restraints on population which once acted in particular localities will lose their force. Public opinion still controls in large measure the conduct of individuals in their marriage relations, but its prescriptions are based to an ever increasing extent on economic considerations, and this brings us to the third factor controlling population.

**113. The Economic Check to the Growth of Population.**—The most obvious and certain economic check upon population is that emphasized by all writers since the subject began to attract attention, namely the need common to all men for food, clothing and shelter as conditions to continued existence. Population is checked by starvation, disease and death as soon as the number of the people reduces the earnings of the lowest grade of wage-earners below what is needed to maintain and rear an average family. This "positive check" is unfortunately of more than historical interest. Every country has its "submerged tenth" of unfortunates who suffer habitually from under-nutrition and resulting disease and death. The members of this class are constantly changing. Those who neither die nor win their way back to the classes from which they descend, are forced in time to apply for institutional relief and to enter the still lower class of avowed social dependents. It follows that the normal tendency of the class is towards self-extinction. It is perpetuated, if not actually added to, in countries like the United States, by the steady

stream of recruits that descends to it from the higher industrial classes.

Actual starvation confronts more rarely those belonging to the class of manual workers, but for them also under-nutrition is a possibility which prolonged illness or inability to obtain employment may at any time change into a reality. The narrow margin which their usual earnings provide above the bare necessities of life, coupled with their lack of accumulated savings, makes them especially liable, when some temporary calamity reduces their incomes, to sink permanently below the line of self-support and self-respect. At the same time, for this class as a whole it is not disease and death, but sacrifices induced by the desire to maintain the "standard of living," that act as the principal check upon the growth of population. As this check acts in about the same way, although not in the same degree, on all classes above the very lowest, its influence may be discussed in general terms.

**114. Influence of Standards of Living on the Growth of Population.**—The population of a country like the United States is divided up into hundreds of different classes, each distinguished by special industrial qualities and having a different earning capacity from the others. The general law applying to the earnings of all classes is that an increase in the number of persons competing for any particular grade of work tends to lower the wages paid for that kind of work. The tendency may be counteracted by an increased demand for the grade of work concerned, or by similar increases in the supplies of workmen and of capital goods all along the line unaccompanied by any lowering of the margin of cultivation, but in the absence of these changes it is always to be reckoned with. As already explained (Section 98) different classes are more or less clearly marked off from one another and it is a usual thing for children to fit themselves for the grade of work done by their parents. In a stationary society the number of work-

men in each grade would need to be kept constant if a change in wages was to be avoided. Children in each grade would need, on the average, just to replace those withdrawn by death, or the birth-rate for each grade would need just to equal the death-rate, if there was to be no reduction in the standard of comfort. Although few modern societies are stationary, it will be useful to note what this condition of affairs would involve as regards the habits of a population before passing to a discussion of the limitations which are active in a progressive society.

The standard of living has been defined as the "mode of activity and scale of comfort which a person has come to regard as indispensable to his happiness, and to secure and retain which he is willing to make any reasonable sacrifice." From the point of view of the growth of population the sacrifices which the maintenance of the standard of living may entail are the postponement of marriage and the restriction of births after marriage. In the assumed situation these sacrifices would have to be incurred to the extent necessary to prevent population from increasing at all. Consider how this might be accomplished for any given class in the population. As children attain maturity and begin to seek for employment they will find the number of desirable positions limited and the competition for them severe. This discovery will affect different ones quite differently. Some in every class will accept the best positions they can get, adjust themselves to the limited incomes these positions afford and marry early without much regard to consequences. They are likely to have larger families than they can easily provide for and may be so discouraged in the struggle that they will fail to maintain their standards of living or to give their children as good starts in life as they themselves enjoyed. Or, instead of being discouraged by the difficulties they encounter, they may only be inspired to put forth greater efforts. Marriage is the spur to lagging ambition which many young men require,

and instead of preventing them from attaining the best and highest of which they are capable it proves often the very means of helping them to such attainment. Such men raise their standards of living rather than lower them as their responsibilities multiply, and conceive plans for their children that they would have been incapable of formulating for themselves. Besides those who marry early, there are others with greater prudence who refuse to assume the responsibilities of married life until they are well established. By the time such men feel able to marry their inclination to do so may have passed, or, if they do marry, their families are likely to be small. Allowing for men and women who do not marry at all, for childless marriages and for infant mortality, which is high in even the most advanced communities, we may conclude that the prudence and forethought of only a part of the members of each class will keep a population stationary, even though a large number are quite reckless in their marriage relations.\* Great prudence on the part of some will serve to offset great recklessness on the part of others.

In a progressive society like the United States the conditions differ from those just described only to the extent that progress permits an increase in population without any lowering of the standards of living. If the rate of progress is rapid enough standards may be maintained and even advanced at the same time that population is growing as rapidly as early marriages and large families permit. Under such circumstances the power of resistance which the standard of living offers is not brought into play at all, and it is more accurate to speak of wages as determining the rising standard than of the standard as determining the rising wages. Few countries are so favorably situated as this. Even in the United States, especially as regards the higher industrial classes, population

\* The population of France is practically stationary, although three children to a family is the average in that country.

has been held in check by the standard of living. In periods of great prosperity the tendency is for earnings to increase and for standards to rise. The causal relation is from wages to the standard. In times of depression the higher standard is maintained and serves to prevent the fall in wages that would inevitably follow if marriages continued to be as numerous as they were before. The causal relation is now from the standard to wages.

A complicating circumstance that makes it difficult, if not impossible, to form any conclusion in reference to the power of resistance which the standard of living of the manual laboring class opposes to falling wages, is emigration and immigration. For example, Germany's population continues to increase at about the same rate decade after decade, and the surplus is disposed of by emigration without any lowering of the earnings of the workmen who remain in the Fatherland. It can only be guessed whether population would be checked by the standard of living, so that earnings could be maintained, should some circumstance close to German emigrants the countries to which they are now welcomed. In a reverse way immigration prevents any gaging of the power of resistance of the standard of living of America's manual laboring class. The steady stream of immigrants with lower standards from Europe is a demoralizing influence, but the latter have thus far been assimilated without any serious decline in earnings. If immigration were to cease and a long period of depression were to threaten a reduction in the wages of the laboring population, it is quite problematical whether the standard of living would serve to check marriages and births to the extent that would be necessary to prevent such a reduction.

In the opinion of most contemporary economists the standard of living is an effective means of control over the growth of population, and the tendency among progressive countries generally is for standards to rise and to insure to

the rank and file of the population ever larger command over the material conditions necessary to happy homes and happy lives. This opinion must be accepted, if at all, on the strength of general considerations and of the undoubted fact that the real earnings of the manual laboring class are larger than at any previous stage in the world's history. The primary cause of their improvement has been the improved methods of production that have been referred to frequently in these pages. Rising standards of living have doubtless been a secondary cause, since it is highly probable that but for them population would have kept pace with the new methods and prevented the earning capacity of the bare-handed workman from increasing. Before attempting a summary statement in reference to the influences controlling the growth of population and through it wages, it will be well to consider how the growth of capital or wealth is controlled.

**115. Statistics in Regard to the Growth of Wealth and Capital.**—As in discussing the growth of population, so in discussing the growth of capital, we will begin with a brief study of the facts and consider subsequently theories touching the causes controlling capital accumulation. Unfortunately statistics in regard to the growth of capital are usually available only as they are included in statistics of wealth generally and are much less trustworthy than are statistics of population. For these reasons we will confine our inquiry to the United States. The statistics for other lands, could we examine them, would confirm the impression that those for the United States convey—that the present tendency in progressive countries is for capital to increase at a more rapid rate than population.

The following table gives the estimates of the total wealth of the country in its various forms in 1890, 1900 and 1904 made by the United States Census Bureau.

**TOTAL WEALTH IN THE UNITED STATES**  
 (In \$1,000,000,000)

	1890	1900	1904
Real estate with improvements .....	39.5	52.5	62.3
Live stock on farms, farm implements and machinery .....	2.7	4.1	4.9
Gold and silver coin and bullion.....	1.2	1.7	2.0
Manufacturing and mining machinery and products on hand .....	4.4	9.0	11.1
Railroads and equipment .....	8.7	9.0	11.3
Street railways, telegraphs, etc. ....	0.7	3.5	4.8
Miscellaneous .....	7.9	8.7	10.7
 Total .....	 65.1	 88.5	 107.1
Average per capita .....	\$1,039	\$1,163	\$1,310

These statistics are little better than rough estimates so too much reliance must not be placed on the exact accuracy of the conclusion to which they point, that is, that during the fourteen years covered per capita wealth increased over 26 per cent. More trustworthy are the following statistics showing the increase, for each decade since 1850, of the value of all farm property in the country and of the capital invested in manufactures.

	Value of all Farm Property (\$1,000,000,000)	Increase Per Cent	Capital Invested in Manufactures	
			(\$1,000,000,000)	Per Cent
1850 .....	4.0	...	0.5	...
1860 .....	8.0	100	1.0	100
1870 .....	8.9	11	2.1	110
1880 .....	12.2	37	2.8	33
1890 .....	16.1	32	6.5	132
1900 .....	20.4	26	9.8	51

From these figures it may be inferred that the wealth of the country increased from 1890 to 1900 by an increment somewhere between 26 per cent, the estimated increase in agriculture, and 51 per cent, the estimated increase in manufacturing. As population increased during the decade less than 21 per cent, the statement that capital grew more rapidly than population appears abundantly justified.

In interpreting these and other statistics of wealth and capital great caution is necessary. Where such statistics have been collected by the inventory method, as is attempted in the United States, important items are sure to be omitted while other items are sure to be duplicated. On the other hand, where such figures are calculated from returns as to incomes from different sources, errors may arise either from inaccuracies in the incomes reported or from mistakes in the method by which the amount of capital giving rise to incomes is inferred from the amount of incomes. Another difficulty is encountered when it is attempted to infer statistics in reference to capital from statistics of general wealth. The normal effect of an increase in capital is a decline in the rate of interest, but this serves itself to increase the value of lands, monopolies and other sources of fixed incomes. It follows that as capital increases and the rate of interest falls, the apparent increase in wealth is likely to be much greater than the actual increase in economic goods. Still another source of error is in changes in the prices of goods, but enough has been said to indicate that statistics of wealth and capital must be interpreted with great caution if serious errors are to be avoided. We have now to consider theories as to the causes which control the accumulation of capital or the growth of wealth.

**116. Influences Controlling the Growth of Capital.—** Since capital goods owe their existence primarily to a willingness on the part of men to postpone consumption or to save, the increase of such goods is affected by everything which influences this willingness. What, then, are the inducements to saving and what the opposing motives for spending? The latter have already been considered (Section 14). It is the tendency of men to overestimate the importance of the present in comparing it with the future, and this leads them normally to prefer present command over consumable goods to future command over goods of

like kind and quantity, present gratifications to similar gratifications at some future date.

Four reasons may be assigned for the above tendency. First and most obvious is the fact that provision for present necessities is the indispensable condition to the continuance of life. The shipwrecked mariner who has provided himself with subsistence for one week has no choice between consuming it this week or next month. His present need of food *must* be satisfied and *must* loom larger in his consciousness than his need at some future time. This fact prevents men from saving that portion of their incomes needed for present necessities. Secondly, the future is uncertain. No man knows, when making provision for the future, that he will live to enjoy it. This was summed up in pagan philosophy in the phrase, "eat, drink and be merry, for to-morrow we die." The Christian religion also emphasizes the uncertainty of life in that it directs men to take no thought for the morrow, but to devote their days to good works and the preparation of the spirit for the immortal life to come. Either course is obviously unfavorable to the accumulation of capital. A third reason is found in man's deficiency in imagination. Present wants are actually felt, those of the future are only imagined. The consequence for the average man is an underestimate of the importance of future gratifications which makes him unwilling to forego present pleasures on their account. Finally, a fourth reason is man's lack of resolution or will. Many who have the most vivid imaginations are, nevertheless, proverbially improvident. This is because they have not the strength of character to resist the temptations of the present and provide in advance for the needs of the future which they so clearly foresee.

These reasons combined predispose the average man to spend his income as he receives it. The proportion that he will spend depends in a measure on the amount of that income. If it is small, most, if not all, must go for present

necessities. The poverty of the poor is an almost insurmountable obstacle to their ever becoming rich. Those who are more fortunately situated compare in their minds present comforts and provision in advance for future necessities, or present luxuries with future comforts. With an ample income even the most improvident person is likely to make some provision for the future. More prudent people are likely to save something though their incomes be small.

The strongest counter-motive to spending is the desire to provide for one's self and one's family after old age has come and earning power has been reduced or has failed altogether. This is important because it applies to nearly everyone. Its practical consequences are reflected in the vast sums which are paid each year in progressive countries as premiums to life insurance companies.\* Some of these payments secure for the family a fixed sum upon the death of the insured. A more common form of policy at present, however, is one which calls for payment of the principal after a certain number of years, even though death has not occurred. This reflects clearly the general appreciation of the fact that old age means usually diminished earning power. Next in importance to the desire to provide for old age as a motive to saving is ambition to command social esteem, power and influence. That "wealth is power" of a certain kind is a fact universally appreciated. Those who covet power at the present day are very apt to seek it through the avenue of wealth accumulation. Though less general than the first motive, this is doubtless the dominant consideration to those men who acquire the largest fortunes. A third motive to saving is the interest which may be obtained for the use of capital, which is itself traceable to the superior efficiency of capitalistic production. Economists have tended to exaggerate this motive

\* The annual incomes of such companies in the United States, derived chiefly from premiums, exceed \$650,000,000.

in declaring that "interest is the reward of saving." It is certainly not true that interest is the only reward or even the chief reward of saving, or that the greater part of the saving which now occurs would cease if the interest now paid for the use of capital were to be withdrawn. Interest is the reward of saving, however, in the sense that all those who save under present industrial conditions may, and as a rule do, receive interest as one of their compensations. Furthermore, to some of those who save interest is *the* reward that is chiefly considered, and the rate of interest has a determining influence on the amount of income they are willing to save. A fourth motive to the accumulation of capital is ambition for business success. Many of the men who succeed best in business in the United States seem devoid of other ambition. They have become absorbed in the game of making money and persist in it because it interests them more than anything else, though they have no very clear idea to what use they will put their fortunes after they are acquired. To such men business success is the all-important object, and capital is accumulated simply because it is a necessary step towards the attainment of the goal.

Comparing the four motives inducing men to spend with those inducing them to save, we may conclude without argument that progress tends to strengthen the latter and to weaken the former. The pressure of current needs, the uncertainty of life, lack of imagination and weakness of will are all becoming less prominent influences shaping the conduct of the average man. On the other hand, desire to provide for the family, social ambition, willingness to postpone consumption for the sake of interest and ambition for business success seem on the increase. These changes are responsible for the tendency already described for capital goods to multiply more rapidly than population, for the operation of the law of diminishing returns as regards capital as a whole and for the declining rate of

interest so marked in the United States during the last forty years.

**117. The Ultimate Determinants of Distribution.**—In the explanation of distribution that has been given, great importance has been ascribed to the productiveness of labor and capital in marginal industries, and it has been stated that the location of the margin of production depends upon the extent of the land and natural resources of a country in proportion to its population and capital. We have just considered the various influences that control the growth of population and of capital, and we are now in a position to indicate the ultimate determinants of distribution.

In the isolated life of a Crusoe economic conduct requires an exact balancing of the marginal gratifications, or utilities, derived from consumption and the marginal sacrifices, or disutilities, involved in production (Section 25). Work should be carried to that point at which pleasure ceases to compensate for sacrifices and at that point it should stop. In industrial society economic relations are vastly more complex. Marginal utilities are calculated, not by each individual separately, but by groups of individuals. Marginal disutilities include not merely effort, but also postponed consumption. They also are calculated, not by each individual separately, but by groups of individuals, some of whom contribute the efforts necessary to production and others the waiting necessary to the existence of the capital goods indispensable to efficient production. In explaining distribution we started with the valuations which consumers place upon goods and analyzed the causes which control the division of the values so determined among the factors which co-operate in production. But consumers are as a rule themselves producers. Like Crusoe, though in a less simple and direct way, they compare the utilities of the goods they consume with the disutilities connected with the part they play in production. This is not

true of consumers whose wealth comes to them because they control sources of fixed income, since such persons make no present sacrifices as a condition to securing command over purchasing power. Nor is it true of consumers who receive interest for capital they have accumulated, not in order that they may secure interest, but in deference to one of the other motives that have been described. Such consumers also make no present sacrifice in return for the purchasing power they receive. Nor is it true of workmen who find their work a pleasure and whose hours are fixed not by calculations of marginal disutility which they themselves make, but by standards determined by the weaker members of the industrial groups to which they belong.\* It is true, however, of capitalists who are just induced by the promise of the current rate of interest to save and invest in preference to spending. Such men balance the marginal utilities of the goods which the interest will enable them to command against the marginal disutility of deferring consumption. It is also true of the marginal workmen in each group who determine by their calculations the length of the workday for their class. For them the marginal disutility of the final hour's labor is a painful reality which they balance in their minds against the added goods which the pay for this last hour enables them to command. If the balance is on the negative side they are ripe for a strike for a shorter workday, and if their feelings are the feelings of their group they are likely to secure it.

Besides the calculations which determine the accumulation of capital and the length of the normal workday, there are others which fix standards of living and through them control, perhaps, the rate at which the working population increases. To maintain wages men in different indus-

\* For example, many a mechanic who limits his work to eight hours a day, would gladly work an additional hour for proportionate pay, but is prevented from so doing by loyalty to the rule of his union.

trial groups incur the sacrifices involved in a postponement of marriage or restriction of births after marriage, and in the long run these sacrifices are compensated, and only just compensated, so far as the standard of living controls wages, by the higher earnings which such conduct insures to the class benefited.

A full analysis of the motives that enter into the balancing of utilities and disutilities in industrial society, and of the equilibrium that results from them, belongs to a more advanced treatise on economics. In actual progressive societies changes occur so frequently that an exact balancing is something constantly aimed at, but never secured. In men's efforts to realize it, the ultimate determinants of value and distribution are, however, to be sought.

#### REFERENCES FOR COLLATERAL READING

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## CHAPTER XIV

### MONEY AND THE MONETARY SYSTEM OF THE UNITED STATES

118. **The Nature and Functions of Money.**—As has already been pointed out (Section 48) every extension of co-operation and the division of labor, beyond the simple division of tasks possible within the family, must be accompanied by a corresponding development of the system of exchange. The simplest kind of exchange is barter; but this has serious drawbacks, since it can take place only when two traders come together, each having in his possession a commodity preferred by the other. Even this unusual situation will not lead to an exchange unless the parties can agree as to the terms of the bargain. Thus, under the system of barter, the American Indian with a pony to dispose of had to wait until he met another Indian who wanted a pony and at the same time was able and willing to give for it a blanket or other commodity that he himself desired. Even when pony and blanket came together an exchange through barter might be prevented by the fact that one of the owners thought his commodity worth somewhat more than that of the other. Neither pony nor blanket could be divided, and in consequence haggling over the trade would be quite as likely to lead to a quarrel as to a transfer of property.

The inconveniences connected with barter led, at an early period in the history of civilization, to the introduction of a medium of exchange, or *money*. Although no exact account of the steps preceding this important innovation has been preserved, it is not difficult to reconstruct

in imagination the circumstances which determined the choice of the medium of exchange and caused it gradually to come into general use. Inability to barter surplus products for the exact commodities desired must have suggested the feasibility of bartering them for other products that were in more general demand, more durable or for some other reason *more exchangeable*. Thus the owner of surplus game who was unable to get for it the arrow-heads he desired, would be glad to accept instead some durable ornament generally prized in the community, such as a string of beads. His chance of exchanging the latter for arrow-heads would be excellent, and would certainly be preferred to the prospect of having his game left on his hands. In some such way commodities must have come to be distinguished, even in primitive communities, by reference to their exchangeability, and the most exchangeable commodities must gradually have come into use as the media of exchange.

Quite as important as a medium of exchange to the development of an industrial community is a standard, or common denominator, by means of which the values of commodities may be compared. Without such a standard the value ratio between each commodity and every other dealt in must be remembered by the trader. For example, if he deals in ten commodities there will be forty-five ratios of exchange to be remembered. The use of a standard of value enables him to substitute for these forty-five possible exchange ratios the nine ratios between the value of the selected commodity and the values of the others. The smaller number of ratios under the new system tell exactly the same story as the larger number did before. Thus, instead of remembering that a string of beads is worth four deer, that two deer are worth an arrow-head and that two arrow-heads are worth a string of beads, it suffices for the trader to remember that a deer is worth one-quarter, and an arrow-head one-half of a string of beads.

To serve as a standard, or common denominator, of value is a second function of money, and to fulfil it, as to fulfil the first, the commodity selected for the purpose must possess in high degree the quality of exchangeability.

In addition to serving as a medium of exchange and a standard for comparing exchange values, money, or the monetary unit, serves in modern industrial communities as the medium for credit transactions, or deferred payments. Promises to pay in the future for value received in the present are habitually expressed in terms of money. To serve as a standard for deferred payments is thus money's third function.

**119. Prices and the Value of Money Vary Inversely.**—Price, as already explained, is exchange value measured in terms of money. In the United States and other gold-standard countries prices express the value ratios between the commodities priced and gold. To say that a bushel of wheat is worth \$1 is equivalent to saying that a bushel of wheat will exchange for 23.22 grains of pure gold, since this is the standard dollar of the country. If the price of wheat should rise to \$1.25 (*i. e.*, to 29.02½ grains of pure gold), the value of gold measured in terms of wheat will have fallen correspondingly. One dollar, or 23.22 grains of gold, will now exchange for only four-fifths of a bushel of wheat. Thus every change in price registers a corresponding change in the exchange value of gold measured in terms of the commodity priced. To determine with certainty whether any given change in prices is due to a change in the value of the commodity, or in the value of gold, the standard money, it is necessary to make a general comparison in which all important commodities are included for the two periods. If in the given case it should be found that while the price of wheat rose other prices remained constant or fell, it might fairly be concluded that the value of gold had not fallen and that the change was due to a rise in the value of wheat.

Some writers describe money as the measure of values, but it is evident that it is not a measure to be compared with a foot-rule or a bushel. It is a convenient standard for comparing values or a common denominator to which all values may be reduced; but as a measure of values in any absolute sense it is untrustworthy, since it is itself variable in value. This variability is a source of annoyance and loss to the business community, and hence, as explained in the next section, stability of value is one of the qualities essential to a good money.

**120. Qualities of Good Money.**—Present-day monetary systems are the result of an historical evolution. In the past, in different countries, nearly every kind of commodity has served as money. The ox is the standard of value referred to in the earliest literature of Greece and Rome. In Africa cubes of salt have been used. Tea was used at one time in parts of Asia. In America the Indians used strings of beads, which they called wampum, and for a time wampum was also used for small payments among the colonists of New England. In Virginia tobacco long served as the standard of value, and efforts were made to fix by law the value ratio between it and the coins which found their way to the colony from Europe. As a result of experiment, all civilized countries have now come to the use of the metals as money, and all of the more important commercial countries have fixed upon gold as their standard and relegated other metals to a subordinate position in their monetary systems. The reasons for the preference for gold become clear from a consideration of the qualities which should be possessed by a good money.

Economists quite generally agree that the commodity selected to serve as money should have the following qualities: (1) value, (2) durability, (3) portability, (4) homogeneity, (5) divisibility, (6) cognizability and (7) stability of value. That the commodity which is to serve as the intermediary between valuable things must itself

have value is obvious. Durability is important because after each exchange transaction the medium of exchange must remain for a longer or shorter time in the possession of the seller. Unless it is durable, it will depreciate during this interval to the seller's loss. This consideration precludes the use of perishable articles as money and accounts for the world's preference for the metals. Portability is indispensable to the convenience of a medium of exchange. Other things being equal, the commodity which compresses the greatest value in the smallest bulk is the most economical medium of exchange for large transactions. In this respect gold is superior to silver and this accounts in part for the preference for it of leading commercial nations. Homogeneity and divisibility are related qualities, since together they insure that the commodity used as money may be divided and subdivided without loss in value. These qualities also distinguish the metals. Cognizability is important as it renders difficult the circulation of counterfeit money. One objection to silver is the resemblance to it of the baser metals, lead and tin. The last quality, stability of value, is essential in connection with the function which the monetary unit performs as a standard of deferred payments. In the absence of such stability creditors and debtors have no guarantee that the contract between them calling for the payment of a certain sum of money at a future date will involve the return of a value equivalent to that loaned. If the value of money rises in the interval the debtor will be injured, if it falls the creditor will receive less than he anticipated. Either event must discourage transactions involving such an uncertain element, and it is for this reason that the importance of stability of value in the commodity which is to serve as money can hardly be exaggerated. As regards this quality also gold has a marked superiority over most other things. The demand for it is very elastic because it serves such a variety of

different purposes. It is highly prized for ornament; it is used in watch-cases, family plate, etc., as a badge of social position; it serves important industrial uses in connection with dentistry, etc., and finally it is now so widely used as money that the monetary demand for it is large. On the side of supply the conditions are equally favorable to stability of value. Because it is precious and at the same time durable, the greater part of the total quantity produced, at least in modern times, has been preserved and is still available to satisfy current needs. In proportion to the total stock (estimated at \$11,000,000,000) the annual addition to the supply due to production is insignificant. The supply is thus practically constant over short periods and is little affected by variations in the annual output of the world's mines. Elasticity of demand and constancy of supply, the conditions favorable to stability of value, are thus presented by gold as by no other commodity. This is the final reason for the world's preference for it to serve as its standard money.

**121. Coinage and the Printing of Paper Money.**—The choice of the medium of exchange and standard of value was a subject which early engaged the attention of organized governments. They did not create the monetary systems that are found to-day, but they gave them a legal sanction which has added materially to their efficiency. Laws at present control the monetary systems of civilized countries in two vital respects: they declare what forms of money shall be a legal tender, that is, shall be accepted in legal payment of all obligations calling for money, either between individuals or between the state itself and its subjects, and they determine the conditions under which these forms of money and other media of exchange that serve the convenience of the business community shall be manufactured and put into circulation.

The manufacture of metallic money is called coinage and has become a government monopoly in all advanced

countries, for the simple reason that this has been found by experience to be the surest means of maintaining a perfectly reliable coinage system. At first coining consisted merely in stamping the head of the sovereign and an indication of the weight of the coin on one of the faces of a flat disc of metal. So long as this only was done, it was necessary at every transaction to weigh the pieces of money offered in exchange to make sure that they had not been "clipped" since leaving the mint. This necessity was obviated by the second step in the progress of coinage, which was to stamp the reverse face of the disc of metal. A third step consisted in "milling" the edges of the coin and thereby rendering it impossible to trim it without detection. At the same time that these improvements in the process of coinage were made, stringent regulations were passed forbidding the mutilation of coins, and requiring those having in their possession pieces whose weight had been reduced below a certain standard to return them to the mint, so that they might be remelted and reissued at full weight. Withdrawing the character of legal money from "light" coins has proved a simple and effective method of enforcing the latter provision. In addition to coins, most modern governments issue one or more forms of paper money. Although devised originally as a means of securing revenue, such money, on account of its convenience, has won for itself a permanent place among the media of exchange preferred by intelligent business communities. Printing and engraving paper notes have thus become as important a function of government as minting coins, and quite as great progress has been made in manufacturing notes that are at once durable and so cognizable as to defy the ingenuity of counterfeiters.

In the monetary systems of most modern states three different kinds of money may be distinguished—standard, token and credit money. Standard money is that to the

value of which the values of all other kinds of money in circulation are adjusted. It may be self-regulating, as when the law declares that a certain weight of the metal selected for the standard shall constitute the standard coin and permits all persons bringing such metal to the government mints to have it converted into coin either gratuitously or on the payment of a small fee, called seigniorage. This system is designated "free coinage," and has been adopted by all the more important commercial nations. Alternative to it is the system of "fiat" money, that is, money issued on the authority of the government and made to circulate by being declared a legal tender. Such money is usually accepted at the outset with some misgiving, but after a time people become accustomed to it, and if the amount issued is controlled so that there are no violent changes in the value of the monetary unit, it may serve nearly as well for ordinary transactions as self-regulating money.

Token money is money which is issued for use as small change in connection with minor transactions. It is usually made of a baser metal than the standard and put out in just the quantity that suits the convenience of the business community. Credit money supplements standard, and is issued on the credit of the government. It is redeemable in standard coin on demand, and differs from token money only in that it is designed to serve as a medium of exchange for large as well as small transactions. As business communities learn to appreciate the superior convenience of paper money, the field for credit money steadily widens. In the United States a stage has already been reached where credit and token money constitute, with credit substitutes for money such as checks and drafts, practically the entire medium of exchange of the country.

**122. Gresham's Law.**—From early times governments have struggled to keep different kinds of money in concur-

rent circulation. The ill success of such efforts led in the sixteenth century to the formulation by Sir Thomas Gresham, one of the advisers of Queen Elizabeth, of the principle known as "Gresham's Law." This is to the effect that when two or more kinds of money circulate concurrently, that kind the material of which is most enhanced in value by being given monetary form tends to drive out of circulation those kinds the materials of which have been less enhanced or unchanged in value by being given monetary form, that is, cheaper tends to drive dearer money out of circulation. This is very like asserting that poor money tends to drive out good and needs careful explanation.

An illustration will help to make clear the reasons back of Gresham's Law. In 1792 the Congress of the United States passed a coinage law adopting the bimetallic system. Both gold and silver dollars were made full legal tender, and the Secretary of the Treasury was instructed to coin both metals freely for all applicants and to put fifteen times as much silver into the standard silver dollar as he put of gold into the standard gold dollar. This is conveniently expressed by saying that the law provided for a mint ratio of 15 to 1. Some time after this act went into effect the market or commercial ratio between silver and gold became  $15\frac{1}{2}$  to 1. The situation then was that our mint coined bullion into money, making an ounce of gold equivalent to fifteen ounces of silver, while in the world's market an ounce of gold was equivalent to  $15\frac{1}{2}$  ounces of silver. Since silver coin was made by law just as good money as gold within the limits of the United States, it was under these circumstances the cheaper medium for the payment of debts within the country. Moreover it was profitable to export gold coin, exchange it for silver bullion, import the latter and have it converted into the overvalued silver money. For this reason such gold as was coined was, in accordance with Gresham's Law, driven

from circulation, and the country was brought to the cheaper silver standard.

The above demonstration of Gresham's Law may seem to prove too much. If silver drove out gold after 1792, why, it may be asked, does it not now drive out gold, and why does not paper money drive out both gold and silver? The reason is not far to seek. Gresham's Law describes a tendency. After 1792 that tendency was quickened into active life because the free coinage of silver opposed no obstacle to the substitution of the cheaper for the dearer money, so long as any of the latter remained in circulation. To-day the tendency is dormant because the quantity of silver and paper money put into circulation is rigidly limited, and is far from sufficient to meet the monetary needs of the country. This cheaper money, at the time it was first issued, did drive out gold; but obviously it could not drive out more dollars than it could itself replace. The limitation on its supply permits some gold to remain in circulation. Gresham's Law still operates, however, as every bullion broker knows, when gold is to be exported, for at such times great pains are taken to select only full-weight coins for shipment. Any circumstance which should increase the volume of silver or paper money in circulation or reduce the country's need for money, would serve to increase the exportation of gold coins, and, if persistent, might cause light as well as full-weight coins to be withdrawn until no gold was left in circulation.

**123. The Adoption of the Gold Standard.**—In adopting the bimetallic system in 1792 the United States simply fell in with the general practice of European nations. That system has since been given up as the result of the conviction impressed upon one country after another that gold and silver cannot be kept in concurrent circulation at any arbitrarily established mint ratio. England was one of the first countries to arrive at this conclusion, and

adopted the single gold standard in 1816. On the continent the struggle to maintain a double standard was continued until the third quarter of the last century. Finding it difficult to keep both gold and silver in circulation at a parity without the co-operation of other nations, France and some of the other states of Southern Europe established in 1865 the so-called Latin Union, which had this for one of its principal objects. From 1803 to 1873, France and the Latin Union succeeded in keeping both gold and silver in circulation at their established mint ratio of 1 to  $15\frac{1}{2}$ . During the entire period the market ratio between the two metals varied but slightly from this mint ratio.\* In 1873 several circumstances united to compel France to abandon the policy which she had so long upheld. Chief among these was the increased production of silver, due to silver discoveries in America, which lowered the value of that metal and caused its substitution on a large scale for the country's dearer gold coin. Seeing their gold disappearing from circulation and fearing that they would be brought to the cheaper standard, the countries of the Latin Union decided in 1874 to limit the coinage of silver, and in 1878 to close their mints altogether to the free coinage of that metal. By this action they maintained their dearer standard, which was thenceforth gold. About the same time (1871-73), Germany adopted the single gold standard by limiting the coinage of silver so that the silver money in circulation should never exceed ten marks *per capita*. Holland, Norway, Sweden and Denmark were not slow to follow the example of their southern neighbors. More tardily Austria-Hungary (1892-1902) and Russia (1896), which for several years had had depreciated paper currencies as their chief media of exchange, accumulated sufficient gold to establish se-

\* The extreme variations were from a ratio of 1 to  $16\frac{1}{4}$  in 1813 to a ratio of 1 to 15.19 in 1859. Cf. Shaw, *The History of Currency, 1252 to 1894*, p. 159.

surely the gold standard. Thus at the end of the nineteenth century all of the important nations of Europe except Spain had the gold standard in actual operation.

Outside of Europe a similar development was in progress during the same period. The British dependencies, Canada, Cape Colony and the States of Australasia, have long been on the gold basis. India suspended the free coinage of silver in 1893, and by 1899 had accumulated enough gold in London to maintain the silver coin, which continued to be the principal medium of exchange of the country, at a fixed parity with the gold coinage of England (15 rupees = £1). Gold thus became the country's real standard of value. Japan adopted the single gold standard in 1898. At the close of the nineteenth century only China and Mexico, among the important nations of the world, remained on the silver basis, and at the time of writing (1908) even these countries are taking measures to establish a fixed parity between their silver currencies and gold in some such manner as did India in 1899. Gold has thus become the standard of value of practically the entire commercial world.

124. Monetary History of the United States.—As already explained, the first coinage law of the United States gave the country a mint ratio so unfavorable to gold that silver became in time its actual standard of value and medium of exchange. It was not until 1834 that Congress attempted to change this situation. In order to bring gold back into circulation, acts were passed in that year and in 1837 establishing the present mint ratio between gold and silver, which is 1 to 15.988.\* The standard silver dollar was to contain 371.25 grains of pure silver as under the act of 1792, and the standard gold dollar 23.22 grains of pure gold. Both were to be nine-tenths fine. This new ratio undervalued silver nearly, if

\* The "16 to 1" so often referred to in the presidential campaign of 1896.

not quite, as much as the former had overvalued it, since the commercial ratio between gold and silver continued to be about 1 to  $15\frac{1}{2}$ . In obedience to Gresham's Law, silver now disappeared from circulation and gold became the real standard of value of the country. This situation continued down to the time of the Civil War. During that struggle United States notes, or "greenbacks," were issued in excessive quantity, with the result that gold also disappeared from circulation and the country was brought to a paper standard. Thus when the war closed, and for some years thereafter, neither gold nor silver, except the subsidiary coin used for small change, was in circulation. In 1873, after considering the subject during successive sessions, Congress passed a law omitting the standard silver dollar from the list of authorized coins. At the time this action attracted little attention, but a few years later, when the question of resuming specie payments was under consideration and silver producers were suffering from the decline in the gold price of their product, there arose a violent agitation for the remonetization of silver. In 1878 Congress passed what is known as the "Bland-Allison Act," which reintroduced the silver dollar and required the Secretary of the Treasury to purchase monthly from \$2,000,000 to \$4,000,000 worth of silver bullion and coin it into standard dollars. The gold price of silver continued to fall, and this led in 1890 to the enactment of a second law, known as the "Sherman Act," which required the Secretary of the Treasury to purchase monthly 4,500,000 ounces of fine silver so long as the market ratio between silver and gold should be less favorable to silver than the mint ratio, and to pay for it by the issue of so-called Treasury notes redeemable in coin and possessing full legal-tender power.

As a result of the Bland-Allison and Sherman Acts the government accumulated a vast hoard of silver out of which as many as 568,260,982 standard silver dollars

will eventually be coined. Of these, less than 80,000,000 have ever been in circulation because of the awkwardness of the silver dollar as a medium of exchange. The remaining dollars have been represented by silver certificates, redeemable in silver dollars on demand, and Treasury notes. The consequence of this large increase in the silver currency of the country was to cause gold to be withdrawn from circulation. This tendency became so marked after the passage of the Sherman Act that serious fears were entertained lest the gold standard, which had been re-established January 1, 1879, should be displaced by a cheaper standard. In March, 1893, a special session of Congress was called by President Cleveland for the sole purpose of repealing the purchase clause of the Sherman Act, which was finally done in October of that year. After much further agitation, the logical sequence to this policy followed on March 14, 1900, when Congress passed a law definitely affirming that gold is the standard of value of the country.

**125. Present Monetary System of the United States.**—On October 1, 1908, there were in general circulation in the United States eight different kinds of money. The amounts of each kind in circulation and in the Treasury, as shown by the statement of the Secretary of the Treasury for that date, were in round figures as follows: Gold coin and bars, \$1,644,000,000; (gold certificates, \$842,000,000);\* standard silver dollars, \$563,000,000; (silver certificates, \$488,000,000);\* subsidiary coin, \$146,000,000; Treasury notes, \$5,000,000; United States notes, \$347,000,000; national bank notes, \$675,000,000. The total money supply of the country was, therefore, \$3,380,000,000, of which \$302,000,000 was held in the United States Treasury as assets of the Government.

\* The gold and silver certificates are placed in parentheses because they stand for gold and silver included in the first and third items.

This represented an estimated circulation *per capita* of \$35.04.

As already stated, it is the monetary policy of the United States to maintain an exact parity between the value of its gold coin and the value of the gold in such coin and between the value of gold money and the seven other varieties of money enumerated. The parity in value between standard gold coins and the gold of which they are made is maintained automatically by the free convertibility of one into the other. Thus, if there is any tendency for the dollar to become worth more than 23.22 grains of pure gold, the new gold that is constantly coming on the market and the old gold that is constantly being given new forms will, under our free and gratuitous gold coinage system, be coined into dollars until the tendency has been checked. On the other hand, if there is any tendency for 23.22 grains of gold to be worth more than a dollar as bullion, gold coins will be thrown into the melting pot or exported until this tendency is checked and the parity in value is restored. By these simple means the gold standard is maintained so far as the relation between gold coin and gold bullion is concerned.

**126. How the Parity in Value between Gold Coins and the other Kinds of Money is Maintained.**—The maintenance of the parity in value between gold coin and the other varieties of money is a more complicated matter. Gold certificates are kept at par by the fact that they are redeemable at the pleasure of the holder in the gold coin in exchange for which they are issued, and which is held in the Treasury as a trust fund. Standard silver dollars, which, like gold coin, possess full legal-tender power, and the silver certificates based on them, are kept at a parity with gold because they, too, are freely exchangeable at the United States Treasury for gold or any other form of money that is desired. There is no law expressly requiring their redemption in gold, but laws have over and over

again affirmed it to be the settled policy of the United States to maintain a parity between its gold and silver coins, and prompt redemption of one in the other has long been recognized as the only sure way of maintaining such parity. The ability of the Secretary of the Treasury to pay out gold in exchange for silver depends, of course, upon the limitation of the amount of the latter that is put into circulation. As the law now stands, no more new silver dollars may be coined than will suffice to redeem the \$5,000,000 in Treasury notes still outstanding, and there is little doubt that the quantity thus authorized, circulating for the most part as silver certificates, will be continuously needed for the country's retail trade. So long as this limitation is adhered to, the redemption of silver dollars and silver certificates is not likely to cause the Government any embarrassment. Minor coins are kept at a parity with gold because they also are redeemable in standard coin, and because there is a constant demand for the limited quantity of such coins issued.

The United States notes and the Treasury notes of 1890, although so different in their origin, are now on the same footing so far as their monetary use is concerned. Both are a legal tender and both are now redeemable in gold. The United States notes, or greenbacks, which were issued in excess during the Civil War, were restored to a parity with gold by the resumption of specie payments, January 1, 1879. The amount of this currency, which was at one time nearly \$450,000,000, had been reduced to \$346,681,016 by May 31, 1878, when an act, which is still in force, requiring this quantity to be kept in circulation, became effective.

After 1890, when the excessive issue of silver currency threatened to deplete the country of its gold, the United States notes were the convenient means used by bankers to secure that metal from the Treasury. As, at the same period, the Government's revenues were insufficient to meet

its current requirements, the Secretary of the Treasury was compelled to pay out the notes almost as fast as they were redeemed, and this permitted their repeated use for the same purpose. The act of March 14, 1900, was designed to prevent the recurrence of a similar situation. It provides for a special gold reserve of \$150,000,000 to be set aside by the Secretary of the Treasury for the exclusive purpose of redeeming on demand United States notes and Treasury notes. The redeemed notes are to be used only to maintain the gold reserve either through exchange for free gold already in the Treasury or through the purchase of gold bullion "at such rates and upon such terms as may be deemed most advantageous to the public interest." The law provides further that when the gold reserve falls below \$100,000,000 the Secretary of the Treasury shall restore it to \$150,000,000 by borrowing money at 3 per cent or less on the credit of the United States. The redemption of these two forms of money in gold is thus assured so long as the credit of the United States is not itself impaired.

The national bank notes, the last variety of money to be considered, are kept at a parity with gold by being made redeemable in legal money either at the Treasury or over the counter of the issuing bank.

As a result of these various expedients, all of which reduce to the ready convertibility of the token or credit money concerned into gold coin, all kinds of money in circulation in the United States are kept at a parity, and the gold standard is maintained. So long as the issue of token and credit money is restricted within its present limits there seems little ground for anxiety in regard to the stability of the standard.

**127. Defects in the Monetary System of the United States: Token Money.**—The monetary system of the United States, notwithstanding the legislative tinkering to which it has been so frequently subjected since the

Civil War, remains defective in three important respects. First, there has been an excessive coinage of silver dollars and the position of the silver certificates, issued in place of them, as credit money redeemable in gold is not defined with sufficient precision in the law. Second, the conditions under which national bank notes are issued fail to provide the country with a satisfactory bank note currency. Third, the gold standard itself falls short of the requirements of an ideal monetary system. We will consider immediately possible remedies for the first of these defects. The others are more complicated and constitute the principal themes of the next two chapters.

Of the eight kinds of money of the United States, gold coins alone are standard money. Minor coins and silver dollars are token money. The five varieties of paper dollars are credit money. The function of standard money in a monetary system has already been indicated. Token money performs a supplementary function that is readily understood. Owing to their small size in proportion to their value gold coins are not suitable for small change. Even gold dollars were found unsatisfactory in the United States and their coinage was suspended in 1890, since which time the quarter eagle (\$2.50) has been the smallest gold coin in circulation. It is the function of token money to supply convenient coins of the small denominations needed in retail trade. The experience of each country must determine what token coins best suit the convenience of its business public, but there are certain principles that may be laid down which are of general application: (1) The issue of token money should be limited to the actual requirements of retail trade, and to insure this result and the maintenance of the parity between token and standard money, the law should provide for the ready convertibility of one into the other. (2) Since the value of token money depends upon the demand for it and upon its ready convertibility, the value of the bullion contents of such money

is of slight importance in comparison with its being readily cognizable and convenient in size and weight. In fact, the only good reason for having the face value of token coins bear a certain relation to the value of the bullion they contain, plus the expense of their manufacture, is that this is the easiest way to prevent counterfeiting. (3) On the other hand, the margin between the bullion and coin value of token coins should be wide enough to allow for considerable variations in the former. Only in this way is it possible to avoid the danger that the bullion value of such coins shall come to exceed their coin value, with the result that they will be withdrawn from circulation.

As regards its minor coins the United States has conformed to these three principles and no serious fault is to be found with its system. In its coinage of silver dollars, however, it has paid no heed to the first and most important of them and consequently the country has a stock of these coins far in excess of its needs. At a liberal estimate there is no likelihood that more than 100,000,000 silver dollars will be required for use in the country's retail trade for many years to come. In fact there is good reason to anticipate that as time goes on fewer rather than more of these awkward coins will be called for, since the preference for paper notes which the Eastern States have long shown is spreading to the West and South. Putting the present and prospective need for silver dollars at 100,000,000 there remain, in round figures, some 470,000,000 silver dollars which serve no useful purpose. These are stored in the vaults of the Treasury at Washington and constitute a dead asset of the Government. Nominally they are the security back of the silver certificates which circulate in their stead but really they contribute nothing to the acceptability of these certificates. It is confidence that the Government will redeem them in gold and the need there is for small bills to carry on the

country's trade, not the prospect of getting in exchange for them silver dollars which no one wants, that maintain these certificates at par with other kinds of money. What to do with these surplus silver dollars is a problem that confronts every successive Secretary of the Treasury.

**128. Plans for Disposing of the Surplus Silver Dollars:**  
**Credit Money.**—Two plans have been suggested for disposing of the 470,000,000 odd surplus silver dollars. The simplest is to withdraw and cancel the silver certificates that find their way into the Treasury at the rate of a few millions a month and convert an equal volume of silver dollars into bullion to be disposed of at the discretion of the Secretary of the Treasury. The sale of this silver bullion would have to be spread out over a considerable period in order not to depress unduly the silver market, but there is no reason to think that the plan could not be carried out successfully if the necessary powers were entrusted to the proper officials. The chief objection to it is the large loss in the nominal assets of the Government which it would entail, since not more than forty cents could be recovered from the sale of the silver for every dollar in silver certificates destroyed.

The second plan proposes to avoid this loss by substituting for the canceled silver certificates United States notes and at the same time adding the proceeds derived from the sale of silver bullion to the legal gold reserve. If the sale of the 470,000,000 silver dollars as bullion brought in \$180,000,000 in gold this would increase the gold reserve to \$330,000,000, at the same time that the credit money secured by this reserve was increased to some \$817,000,000. The new reserve would thus be considerably in excess of one-third of the new liability, and as the greater part of this liability would be in the form of small bills continuously needed in connection with the retail trade of the country, there seems every reason to believe

that it would be as adequate as is the present reserve against the present liability.

Objectors to this plan are chiefly those who distrust every form of credit money except gold certificates protected by a dollar for dollar gold reserve. But such extreme distrust rests rather upon sentiment than upon reason. Credit money has as legitimate a place in a monetary system as has token money, but its issue must be regulated with greater caution since its use is not confined to small change transactions and there is no simple way of telling when a country has all that it can safely use. Its function is, of course, to economize the use of standard money by serving as a convenient substitute for it. The business community in the United States has a decided preference for paper notes over coin. It prefers gold certificates to the actual gold, and it will accept United States notes as readily as gold certificates provided it is assured that they will be redeemed in gold on demand. Under these circumstances there seems to be no good reason why the Government should not continue United States notes in circulation in moderate amount, provided it maintains an adequate gold reserve to insure their redemption and machinery for increasing this reserve promptly should some extraordinary emergency render this necessary. The system was subjected to a severe test in the autumn of 1907 when there was an almost complete collapse of commercial and bank credit. That there was no unusual demand on the Government's gold reserve at that time is conclusive proof that the issue of credit money in the volume now outstanding has not weakened the soundness of the country's monetary system. In the opinion of the author, increasing the issue of credit money by substituting United States notes for silver certificates, as proposed above, while at the same time increasing the gold reserve by adding to it the proceeds derived from the sale of the surplus silver dollars, would really tend to

strengthen the monetary system by making it simpler and more rational. It is the remedy for this defect which seems to meet most fully the different requirements of the situation.

#### REFERENCES FOR COLLATERAL READING

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## CHAPTER XV

### CREDIT AND BANKING

129. **The Nature of Credit.**—Credit, or a promise to pay at a future time for a valuable consideration received in the present, is probably as old as the practice of exchange. The only condition essential to its use is confidence on the part of the creditor that the promised payment will be made when due, and this must have been among the earliest fruits of social intercourse. With every increase in the mutual confidence which binds together the members of business communities a larger field has been opened to credit, until at the present time there is hardly a business man who does not figure daily either as a creditor or a debtor in some credit transaction.

With the introduction of money as the medium of exchange, the custom arose of using the monetary unit as the medium of credit, or of deferred payments. This is now so universal that little or no exaggeration is involved in defining credit as “a promise to pay money.” The written forms in which promises to pay money are drawn up are conveniently designated as “credit instruments” or “credit paper.”

Like most of the terms of economics, “credit” is used in other senses than that chosen for definition. Business men talk habitually of “having credit” and of “giving credit.” To have credit is to enjoy a reputation for integrity which inspires confidence, or to possess property that may be pledged. To give credit, on the other hand, is to accept another’s promise to pay in exchange for a valuable consideration. It is obvious that business men will “give

credit" only to those who "have" it and that both are necessary to the existence of negotiable credit instruments.

**130. Book Credit.**—Of all forms of credit the simplest is verbal or book credit, resorted to whenever a purchaser has things "charged." This practice has many advantages. In agricultural communities in which incomes are received only at long intervals when the crops are ready for sale, book credit at the country store enables the farmer to secure supplies for himself and his family during the periods between harvests. In a similar way, in factory towns and cities where wages are paid by the month, book credit is indispensable to the maintenance of many workingmen's families during the interval between pay days. More important, because more clearly beneficial, is the use of book credit in connection with large retail stores where it obviates the necessity for small payments. The extent to which book credit serves as a medium of exchange in the United States can only be guessed at, but it is believed that it figures in connection with fully one-half of the wholesale and retail transactions that take place.

In agricultural districts it is not unusual for the merchants who sell on credit to be themselves purchasers of their customers' products. Where this is the case debts contracted during the year may be canceled by credits secured when the crops are sold and book credit may serve as the sole medium of exchange. More commonly the use of book credit simply defers payment until settlement day, when some other medium of exchange is called in to balance the account. Generally this other medium is some form of credit created by a bank, such as a check or a draft.

**131. The Banking Business.**—A bank is an institution which deals in money and credit. It receives deposits; pays them out again on the written order, or "check," of the depositor; sells "drafts" or orders for money on its correspondents in other places; lends at interest money, deposit credits or its own "bank notes"; "discounts" notes and

bills of exchange; sells "foreign exchange" or drafts on its correspondents abroad, and sometimes provides safety-deposit boxes for the storage of valuable papers. In addition to commercial banks, like the national banks in the United States, to which the above description applies, there are other banking institutions which perform only a limited number of these functions and combine with them others that do not fall strictly within the field of banking. Such are savings banks and trust companies.

Historically, lending is an older banking function than borrowing. Thus the Bank of England was incorporated in 1693 primarily for the purpose of lending to the Government £2,000,000 at 8 per cent interest. The capital necessary to carry through this operation was subscribed by merchants of London, who soon fell into the habit of entrusting their surplus funds to the bank and of borrowing from it themselves when occasion required. As the deposits of a commercial bank must be repaid on demand, the practice of lending the deposits as well as the capital of a bank was at first looked upon as a dangerous innovation. Experience has shown, however, that although all depositors have the right to withdraw their deposits on any given day, in practice only a small portion of them will do so. By lending money for short periods and arranging loans so that a certain proportion of them become due each day, a modern bank is able to lend at interest from two-thirds to three-fourths of its deposits without running any serious risk of becoming bankrupt. Of course, to continue this policy, it is necessary for a bank to command the confidence of its depositors. If they are suspicious or timid, some slight circumstance may start a "run on the bank," which may prove fatal, since no bank can do a profitable business and at the same time be in a position to repay at any time all of its depositors. Banking thus depends for its success more than any other business upon the confidence which customers have in those directing the enterprise. It is this

confidence that attracts deposits. The same confidence holds them after they have been made and enables the bank to turn them to profitable account. The confidence of other banks, finally, may preserve a bank subjected to a run from becoming insolvent. For these reasons bankers should be men of tried business experience, whose integrity is above suspicion.

**132. The Check System.**—One reason why a bank may count with confidence on retaining control over the major portion of its deposits from day to day, is because the check is such a convenient means of payment that it tends to become the principal medium of exchange in communities in which banking is developed. If all of the inhabitants of a town had deposits in the same bank, it will readily be perceived that payments among them might be made exclusively by means of checks and that such payments need involve the actual withdrawal of no money from the bank. The butcher, the grocer, the dry-goods merchant, the lawyer, the physician, etc., might exchange checks at the end of each week or month, and these transfers could be noted on the books of the bank. No money would be required, because under the assumed conditions checks would accomplish all of the exchange work to be done. Only when payments were made to persons who were not depositors in the bank would the bank's deposits be encroached upon. No community has yet developed to a point where checks are used for all of its transactions. In fact, for small payments, the convenience of using checks is more than counterbalanced by the expense connected with transferring small amounts from one account to another. Moreover, as a community grows, competing banks are likely to start up, and this gives rise to checks drawn on different banks and prevents that easy transfer of accounts possible when one bank monopolizes the business. To reduce to a minimum the transfers of money necessitated by the existence of different banks in the same locality, the banks

themselves have devised what is known as the "clearing house." Where no clearing house exists, each bank which receives checks drawn on other banks is under the necessity of sending such checks by special messenger to the banks against which they are drawn and demanding payment for them. A clearing house is an institution where such messengers from different banks may come together daily and exchange checks, receiving in payment only the balance due to each bank from all of the others belonging to the clearing house. By this means checks aggregating millions of dollars may be exchanged through the transfer of only 5 or 6 per cent of the amount in money. Even this transfer involves no actual reduction in the amount of money on deposit, since some banks gain what others lose. Thus, with a well-organized clearing house, the affiliated banks in a city in which checks are the preferred means of payment may count with certainty on retaining control over the greater part of their deposits, so long as they continue to command the confidence of their depositors.

In the United States the use of checks for paying debts in distant cities is becoming almost as general as for paying debts at home. To facilitate this process each bank has its correspondent in each of the large cities of the country, to which it sends checks drawn on banks in those cities which it has received on deposit or cashed for its customers. These checks are sent to the clearing house like any others by the bank receiving them, and, if good, are credited to the account of the bank making the remittance. The process is made still simpler by the use of drafts drawn by the customer's bank against its correspondent in the city to which remittance is made and given in exchange for checks against the customer's deposit. The obvious advantage of drafts for distant payments is that they do not need to be returned to the place where they originate before they are paid and canceled.

The use of checks, drafts and post-office, express and

telegraph money orders as media of exchange confines the use of money in progressive communities within very narrow limits. Well-to-do people in cities in the United States already use money only for small-change transactions and for traveling expenses. As the country becomes more densely inhabited and credit institutions are perfected, it hardly admits of question that this custom will become more general and that credit will serve as the medium for an ever larger proportion of exchange transactions. This does not mean that the monetary unit will lose its importance as the standard of value, since all credit instruments are expressed in terms of money. In fact, since credit is based on confidence, the wider the extension of credit, the more vitally important will the soundness and stability of the monetary system become.

**133. Bank Deposits and Bank Loans.**—Lending, which was the first, is still, from the point of view of the banker, the most important function of a bank. He is willing to accept deposits and to maintain the clerical force necessary to the efficient operation of the check system, because in this way he adds to his loanable resources. It is through lending the latter at interest that he derives the greater part of his profit. Lending deposits is so remunerative that banks, especially in cities, are active competitors for depositors. The inducements they offer range from ready accommodation with loans, which appeals especially to active entrepreneurs, to the payment of a small rate of interest even on call deposits. Some city banks even go so far as to send their own messengers to collect deposits and to cash checks for their customers, so that the latter are spared the trouble of visiting the bank. One reason for this active competition is the belief that deposits themselves attract and hold deposits. Confidence is infectious, and when a business man observes that others are entrusting millions of dollars to a particular bank he is the more ready to entrust to it his own surplus funds.

A bank's loans may assume a variety of forms depending upon the kind of security accepted and the conditions as to interest. The simplest sort of a loan is on the personal note of the borrower, secured only by his individual name. Such notes are known as "single-name paper" and are entirely acceptable to bankers when the credit of the giver of the note is above question. A more common kind of loan is on the personal note of the borrower endorsed by some friend or business associate, who, by writing his name on the note, makes himself also liable for the payment of the obligation. "Two-name paper" is, for obvious reasons, more acceptable than single-name notes. Endorsements on notes may be multiplied indefinitely, and each new name may add something to the value of the security.

Even more acceptable to bankers than personal notes are notes secured by a pledge of stocks or bonds, called in this connection "collateral." If such notes are not paid when they fall due the banker is at liberty to sell the securities pledged and reimburse himself for principal and interest from the proceeds. To lend intelligently on collateral security the banker must be well informed as to the value of stocks and bonds, and it is for this reason that he is compelled to follow closely the variations of the stock market. In addition to lending on paper created for the purpose of the loan, banks lend by discounting notes and bills of exchange created in connection with ordinary mercantile transactions. A bill of exchange is an order drawn by one person directing another to pay a certain sum of money on a certain date to a third person named in the bill. Such bills, or drafts (a name also applied to them), are the constant recourse of merchants who sell on credit. When drawn by a merchant who enjoys the confidence of his bank they are readily discounted by the latter, that is, purchased at their face value less interest on the principal at the current rate to the time when they fall due. In such a transaction a bank virtually lends its customer the face

value of the note less the discount, which is in this case the interest, relying upon him to reimburse it if the person against whom the bill is drawn fails to pay. To avoid misunderstanding, banks which discount bills of exchange usually lose no time in having them brought to the attention of the persons against whom they are drawn for their "acceptance." An accepted bill resembles an endorsed note in that two persons are legally responsible for its payment.

Besides differing in their form, bank loans differ as to the conditions of payment. In this connection "call" or demand loans, short-time loans and long-time loans must be distinguished. Call loans are payable at any time at the will of either lender or borrower. They are based usually on collateral security, and the borrower who fails to respond promptly to a bank's request for payment runs the risk of being "sold out," that is, of having the security sold to reimburse the bank. As such forced sales are not likely to be advantageous, borrowers on call have every inducement to meet their obligations promptly. Short-time loans are loans which "mature," or fall due, within thirty, sixty or ninety days. Next to call loans, these are preferred by a commercial bank, which likes to have its resources as completely under control at any given time as possible. Long-time loans are loans that run for six months or more and are made more frequently by savings banks, trust companies and private bankers whose obligations to depositors do not usually call for repayment on demand. The prudent banker makes the combination of these various kinds of loans that will secure for his bank the largest average rate of return without so tying up its funds that they cannot be quickly converted into cash to meet an emergency.

**134. How Banks Lend their Credit.**—From what has been said thus far, it might be inferred that a bank's credit figures only on the deposit side of its business. It is credit that attracts depositors, and the bank's own capital and the

deposits entrusted to it appear to the uninitiated to be the resources which limit its lending capacity. As a matter of fact, modern banks take advantage of the business community's preference for checks as a means of payment to lend deposit credits as well as money. The present-day borrower from a city bank desires, in nine cases out of ten, not money, but a deposit credit on the books of the bank against which he may draw checks at his convenience. Even if he wishes to pay at once to another the whole amount borrowed, he will usually prefer to draw a check for it rather than to pay it in money. From this it follows that the deposit liabilities of a modern city bank represent quite as largely sums loaned by it to business men as sums entrusted to it by such men. A bank lends its credit quite as freely as it utilizes that credit in inducing others to lend to it.

The same considerations which cause *bona fide* deposits to be left under the control of the bank, so long as it retains the confidence of its customers, causes loaned deposits to be left with it also. The man who borrows from a bank wants ordinarily purchasing power to use in some business transaction. This purchasing power may pass to someone else, but under present conditions the new owner is almost certain to entrust it, at least temporarily, to a bank for safe-keeping. Presently his business dealings may cause him to transfer it, or a part of it, to a third person, but again the chances are all in favor of its being left on deposit with a bank rather than being withdrawn as money. Before the purchasing power loaned by the bank has left its control, or the control of affiliated banks, it is more than likely, in the ordinary course of business, that the loan will mature and equivalent purchasing power will be returned to the bank. In this fashion a bank is able to receive interest for assuming demand liabilities which it may not, as a matter of fact, ever be called upon to discharge. It must always be ready to discharge them on pain of bank-

ruptcy, but it may count with confidence on being called upon to discharge only a portion of them from day to day. This ability of a bank to make a profit by lending that intangible thing called credit is what makes successful banking so profitable and at the same time exposes bankers to such serious temptations. Banking experience in a given locality may suggest that a cash reserve of at least 30 per cent of the deposit liabilities ought to be held in readiness to satisfy at any time a bank's depositors. If this amount is held, a loan business, in the form of deposit liabilities, of \$1,000,000 may be maintained by means of a reserve of \$300,000. The same \$300,000 would maintain a loan business of \$1,200,000 if 25 per cent were an adequate reserve. The interest on the additional \$200,000 is the temptation which is constantly presented to the banker to depart from the lessons of banking experience and maintain a somewhat smaller reserve than is entirely safe. A reserve of 25 per cent, 20 per cent or even 10 per cent, might be adequate under ordinary business conditions. But the reserve must be sufficient to meet not only ordinary demands, but any demands that are likely to arise. It is because bankers are apt in times of business prosperity to forget the lessons of the past that the banking business has appeared a fit object for state supervision and regulation.

Besides lending their credit in the form of deposit liabilities, banks which enjoy the privilege of issuing bank notes, that is, the bank's promises to pay on demand without interest the sums named on the face of the notes, may lend their credit in this form. When the credit of a bank is securely established, its promises to pay may be considered "as good as gold." Under such circumstances borrowers from the bank will be as willing to accept bank notes as legal money in case they wish some other means of payment than their own checks. In cities, where checks can be presented to the bank against which they are drawn within a few hours and their value established, most business men

prefer them to bank notes. In country districts, however, checks are not acceptable because of the risk involved in trusting the drawer of a check until it can be presented at the bank against which it is drawn. If confidence is felt in the bank, no such objection will be raised to bank notes, since they carry on their face the liability of the bank. It follows that country banks enjoying the privilege may loan their credit through the issue of bank notes, when otherwise loans would have to be made in cash and credit could enter into their business only as a means of attracting depositors.

**135. Interest on Bank Loans.**—In a previous chapter interest was described as the share of wealth assigned to capitalists for the use of their capital, or as the earnings of capital. Interest on bank loans does not at first thought appear to fall under this definition. Are the money and credit which banks lend capital? If not, what service do these render to induce borrowers to pay interest for their use? Satisfactory answers must be given to these questions to justify our definition of interest.

Those who borrow from banks wish, usually, purchasing power to enable them to obtain—or, at times, to retain—control over a share of the community's capital. What they really borrow is not the money or the deposit credit which the bank transfers to them, but the concrete forms of capital, economic goods of various kinds, or stocks and bonds which represent part ownership in aggregates of economic goods, which they purchase with this money or deposit credit. The purchasing power which the bank supplies is simply the convenient medium by means of which control over capital is secured, and interest is paid for its use, ordinarily, simply because the capital which it represents earns interest. It is a derived form of interest accounted for by the interchangeability of purchasing power and capital goods.

For a community which uses as its medium of exchange only self-regulating standard money, for example, gold

coin, the answers to the questions propounded above may be given without hesitation. Such gold coin is itself capital, that is, the product of past industry used as an aid (as the "tool of exchange") to further production. Only so much wealth will be thrown into this form as can earn the same rate of return that is obtained by other kinds of capital goods, and this return will be secured because, as the universal medium of exchange, money represents all other goods. It is the transition form into which capital is thrown as it passes from the control of those who do not want it as embodied in particular capital goods, to those who do want it as so embodied, and confers upon its possessor command over whatever combination of capital goods he may require. His willingness to pay interest for its use follows necessarily from this command over interest-earning capital goods which it bestows.

But no community uses standard money only as its medium of exchange. The credit of the government is called in to give currency to token and credit money. Where banking is developed, bank credit also serves on a vast scale as a medium of exchange. Can this credit which so largely takes the place of standard money in modern business communities be properly included under the definition of capital? If not, what service does it render which entitles those who furnish it to interest for its use? It must be clearly asserted at the outset that credit is not capital. It may enable the person who enjoys it to secure capital. It may even, to the extent that it serves equally well as the medium of exchange, take the place of capital in the form of standard money. But it is not itself capital. Nevertheless, interest is paid for its use for exactly the same reasons that it is paid for the use of standard money. What the business man wants when he borrows from a bank is purchasing power. If the bank can supply this in the form of a deposit credit, against which he may confidently check at will, or in the form of bank notes, he is as well, if

not better, pleased than if it supplies it in the form of standard money. What he really wishes is the goods to be bought with the purchasing power loaned him. It is for these that he is willing to pay interest. It is even these that are really loaned to him, since the bank transfers to him a part of its own control over the collective wealth of the community. The purchasing power which figures in the transaction soon passes on to someone else and continues to circulate in the community, changing hands perhaps hundreds of times before the loan falls due and equivalent purchasing power must be returned to the bank by the borrower. A demand for bank loans is thus at bottom not a demand for money or for credit, but a demand for a part of the community's capital. Money or other purchasing power is transiently needed to put the borrower in control of the capital he wishes, but its task is quickly done, while the capital remains in the borrower's possession. His demand for it is due, not to his position as a borrower, but to his position as a prospective buyer, and the aggregate demand for money is no greater in a community in which all purchases are made with borrowed money than it is in a community where the same volume of purchases is made with money owned by the purchasers themselves.

**136. Reasons for Differences in Rates of Interest.—** Conceding the accuracy of the above analysis, the reader may be inclined to ask why bank credit, the cheaper medium of exchange, does not, in obedience to Gresham's Law, entirely supersede standard money. This is because there are very definite limits to the use that may be made of it. In the first place, it must never be forgotten that bank credit is efficient as a medium of exchange only so long as it is convertible at will into legal money. Bankers must be constantly on their guard against unduly multiplying their deposit or note liabilities, and the public must be constantly on its guard against trusting bankers who are not safe, conservative men. These two considerations tend

to confine the banking business to men who may be trusted not to be carried away by the possibilities of gain afforded by their position, and to cause such men to regulate their use of credit by reference to the reserve of legal money which they are able to maintain as a guarantee that all obligations will be instantly discharged. A second point to remember is that the nature of bank credit limits its use to borrowers whose need of purchasing power is only temporary. A commercial bank cannot lend on long-time paper to any considerable extent without losing that quick control over its assets that is indispensable to its solvency, since nearly all of its liabilities must be discharged on demand. Its loans must be on call or short-time paper, and this confines its services to business men whose transactions are of such a nature that they can count confidently on ability to repay, after a brief interval, what they have borrowed.

Within the limits determined by the nature of their business, commercial banks compete actively to lend their credit at interest. Where banking is well organized this insures to those business men who can avail themselves of call and short-time loans accommodation at rates of interest as low, and at times even lower than that paid by the safest long-time investments. The lowest rate normally is that paid for call loans. Only men who are engaged in operations on the stock exchange, which they believe they can conclude without loss on short notice, venture, usually, to make themselves liable for loans of this character. In contrast with the limited demand for such accommodation on the side of borrowers, there is an almost indefinitely large supply of funds to be loaned at call on the side of lenders. Other things being equal, call loans are those dearest to the banker's heart. They enable him virtually to "have his cake and eat it too," to retain control over his assets at the same time that these are earning interest. These two circumstances explain why the call rate is sometimes as low as one-half of one per cent and usually lower

than the rate on the safest bond investments. The call rate is also the one subject to the most violent fluctuations. Those who borrow on call do so nearly always to buy stocks or bonds. If their calculations miscarry, they may be asked to repay at the very time when it is most awkward to do so. Rather than sell, on a depressed market, the securities they have purchased, borrowers are often willing to pay extravagant rates of interest for a few days in the hope that the prices of these securities will rally. It is thus not uncommon for the call rate to rise to 50, 75 or even 100 per cent for a few hours or days when a decline in stocks is in progress or banks are calling in their loans to be ready for emergencies.

Loans on short time, which are less attractive to lenders, are, on the whole, more attractive to borrowers, but, as before, those who wish the use of purchasing power for thirty, sixty or ninety days only, are a limited class. The normal relation between supply and demand fixes the rate of interest on short-time loans comfortably above the call rate and even somewhat above the rate on such permanent investments as safe railroad bonds or real estate mortgages. The rate on long-time loans is little affected by the use of bank credit as a medium of exchange in place of standard money, for the reason already explained that commercial banks cannot afford to tie up their loanable funds under long-time contracts.

Speaking generally, it is the tendency in countries in which the banking business is open to all who can command the requisite capital, as it is in the United States, for the supply of funds loanable at call or on short time to be multiplied until the rate of interest on such loans bears a certain normal relation to the rates of interest in other fields of investment. Ability to loan their credit as well as standard money enables commercial banks to satisfy the requirements of business men at lower rates of interest than could possibly be offered if every loan negotiated meant so

much cash withdrawn from the control of the bank. Competition prevents the banks from retaining for themselves the profit which results from the use of their credit. They share it with their customers, and through these customers the whole business community is benefited. At last analysis, rates of interest on bank loans are determined, like other rates of interest, by the earning power of capital. Credit serves merely to supplement standard money as a medium of exchange and introduces no new principle to necessitate a qualification of the explanation of interest already given.

**137. History of the National Banking System.**—The national banking system of the United States was an outgrowth of the Civil War. To meet the expenses of that struggle the Federal Government was forced to issue bonds on an unprecedented scale. The national banks were created to furnish a market for these bonds and at the same time to take the place of the State banks, which were not in a sound condition in all sections of the country. The original act, passed in 1863, was revised in important respects by the National Bank Act of 1864, which, as amended by subsequent statutes, is still the basis of the system.

General supervision over the national banks is vested in the Comptroller of the Currency, who represents the Secretary of the Treasury in all his relations with these institutions. The law permits the former officer to issue certificates of incorporation, valid for twenty years, to any five reputable citizens who wish to establish a national bank and can command the requisite capital.\* Banks organized with a capital of \$150,000 or less must invest one-fourth of their capital in United States bonds and deposit them with the Comptroller of the Currency. Originally, larger

\* The minimum capital in places of 50,000 or more inhabitants is \$200,000. An amendment added in 1900 makes the minimum for places of 3000 inhabitants or less \$25,000.

banks had so to invest one-third of their capital, but at present the requirement for such banks is the deposit of \$50,000 only in bonds. Any national bank may so invest its entire capital. In exchange for the bonds deposited, the Comptroller is required to issue national bank notes up to their par value (or their market value if they are quoted below par). Banks which receive such notes must deposit, in addition to the bonds, a redemption fund in lawful money equal to five per cent of the face value of their notes in circulation. The currency panic and collapse of bank credit which occurred in October, 1907, led in 1908 to the enactment by Congress of an amendment to the National Bank Act, which permits, under careful limitations, the issue by national banks organized in "national currency associations" of "emergency notes" to the aggregate amount of \$500,000,000. As a basis for these notes securities other than United States Government bonds are accepted, the Treasury being protected from loss by the joint-liability of all the banks in the "currency association," by a ten instead of a five per cent deposit in the redemption fund and by the large margin required between the value of the securities accepted and of the notes issued. Moreover the notes are subject to a heavy tax rising from five per cent the first month to ten per cent in case they remain in circulation for as long as six months but not longer than a year. This insures that the notes will be issued only in acute emergencies and that they will be promptly retired so soon as the emergency is passed. On the strength of the ample security provided for the ultimate redemption of bank notes at the expense of the issuing bank, the United States Government itself assumes responsibility for the redemption of such notes, with the consequence, as already pointed out, that they are considered as safe throughout the United States as any kind of money in circulation. Besides issuing notes—a function practically confined to the national banks, since the demand notes

of State institutions are subject to a tax of ten per cent under an act passed in 1865—the national banks may engage in a general banking business, except that they may not lend on the security of real estate.

Depositors in the national banks are protected in various ways. When such banks fail, their stockholders are liable to assessment, to make up any deficit, up to the full par value of their stock. The banks are required to make at least five reports of their condition in the course of each year on such dates as may be designated without previous notice by the Comptroller. They must also submit to periodic examinations—also unannounced—by bank examiners acting under the orders of the Comptroller and empowered to inquire into every detail calculated to throw light on the true condition of the bank examined. Finally, the banks are divided into three classes—central reserve city banks (those of New York, Chicago and St. Louis, on October 1, 1908), reserve city banks and others. Banks in the first class are required to keep continuously a reserve in lawful money equal to 25 per cent of their deposit liabilities. Those in the second class must also have a reserve of 25 per cent, but one-half of this may be kept on deposit with national banks in the central reserve cities. The reserve required of banks in the third class is only 15 per cent, and of this three-fifths may be kept on deposit with national banks in reserve cities. Whenever a bank's reserve falls below the legal minimum it is required to discontinue its discount business until the reserve is restored, and if this is not accomplished within thirty days it may be placed in the hands of a receiver.

**138. Defects in the System and Remedies.**—On the whole, the banking system which has grown up under the regulations just described has more than justified the anticipations of its authors. Not only have national banks multiplied until they now carry on the bulk of the commercial banking business of the country, but national bank

notes have proved a perfectly safe medium of exchange and depositors in national banks have lost surprisingly little as the result of bank failures since the system came into operation. There are, however, two respects in which, in the opinion of most authorities, the system admits of improvement. These are in connection with the note issue and reserve requirements of the present law.

The primary reason for permitting banks to issue notes is to enable them to supply the business community with a cheap and *elastic* medium of exchange in sections and for transactions for which checks are unavailable. The bank note system of the United States is perversely elastic. Helpful elasticity results when banks are put in a position which makes it profitable for them to issue additional notes when more currency is needed, and to withdraw notes from circulation when the currency is redundant. One symptom of a need for currency in districts which cannot make large use of checks against deposits as a medium of exchange, is the withdrawal of deposits, and this must force banks to raise their rate of interest unless they can meet the emergency by an issue of notes. A redundant currency, on the other hand, is indicated by an increase in deposits. If the bank note currency is elastic it will expand to satisfy the increased demand for currency in the former case, and contract in the latter. This takes place under the banking systems of most countries, but under the system of the United States, which requires, in addition to the five per cent redemption fund deposit, a dollar for dollar bond deposit, a contraction in bank deposits makes profitable not the issue, but the withdrawal of notes. When deposits are being withdrawn a bank wishes to increase its available funds. It cannot do this in the United States by issuing bank notes, because for every one hundred dollars so issued more than one hundred dollars must be tied up in the premium bonds and redemption deposit required as security. On the contrary, it can do it by withdrawing bank notes

from circulation, because for ninety-five dollars in legal money sent to Washington for this purpose a bond that may be sold at once for more than one hundred dollars will be returned. It is only when the currency is already redundant that national banks are likely to find it profitable to increase their note issues. At such times they have unloaned money in their vaults. Investing this money in United States bonds which afford an interest and receiving back a nearly equal sum in bank notes may, under these circumstances, prove profitable. The tendency of bank notes under our national banking system is thus to contract when expansion is desirable, and to expand when the currency is already redundant. This is not true of the emergency notes authorized by the act of 1908, but the onerous restrictions limiting the issue of such notes confine their use to periods of acute money stringency. A better bank note system would prevent a money stringency from becoming acute and thus render the issue of emergency notes, except under extraordinary circumstances, unnecessary.

Two features of the emergency-currency act of 1908 suggest the directions which the reform of our bank note system should take. They are the provisions making the banks organized in currency associations jointly responsible for their note issues and permitting the deposit of two-name credit paper having no more than four months to run as security for the notes to be issued. Joint-responsibility on the part of the banks is important because its absence encourages banks to meet a threatened stringency by hoarding their individual resources when what is needed to restore public confidence is the courageous use of the collective banking capital to satisfy the legitimate requirements of the business community. Permitting the issue of notes on the security of short-time credit paper is advantageous because such paper constitutes the chief item in the ordinary assets of a commercial bank and it may be

hypothecated without any diversion of the bank's resources from their proper function, which is to furnish to responsible entrepreneurs the purchasing power they require to carry on their business enterprises. Space will not permit an adequate discussion of this complicated problem, but it is believed that no satisfactory solution of it will be attained until concentration of banking responsibility for bank note issues is carried to the point of creating one central bank of issue and until this central bank is allowed to put notes in circulation, under proper safeguards, on the basis of its ordinary banking assets. This is the policy to which the leading countries of Europe have been brought, and the signal success of the Bank of France and of the Imperial Bank of Germany in supplying those countries with safe and elastic bank note currencies invites imitation.

The second defect referred to consists in permitting the reserves required by law of national banks in classes two and three to be deposited in part with other banks. To the extent that legal reserves are necessary, they should be required without qualification of the banks for which the reserve is intended. The present system of the United States tends to concentrate a large part of the reserves of national banks in the national banks in central reserve cities, and especially in New York. Since the latter treat the deposits of other banks in much the same way that they do the deposits of individuals and maintain ordinarily only the 25 per cent reserve against them required by law, the banking system of the whole country is exposed to serious danger whenever any unusual demand is brought to bear on the banks of New York. This concentration of responsibility for the whole credit system in the financial center of the country is to some extent natural and inevitable, but it seems in the highest degree imprudent deliberately to encourage and extend it, as does the present law. Requiring each bank

to keep in its own vaults its legal reserve would serve to foster conservative banking, whereas the present system conduces to recklessness and disregard on the part of the banks of their responsibility to their own depositors.

**139. Conclusion.**—It would be difficult to exaggerate the importance of the services which credit, and especially bank credit in its various forms, renders the business community. Through the agency of banks a cheap and elastic check currency is substituted for money, which is both costly and for many purposes inconvenient. They serve to gather together the small savings of thousands of persons, to whom they are of no immediate use, and to put them at the disposal of active entrepreneurs on terms which enable the latter to produce at a minimum of cost. Finally, they are the ready agents of the Government and of great corporations when large sums of purchasing power are required, and carry through easily financial operations which without their aid would be fraught with most serious consequences to the whole business world. Notwithstanding these services, there is in the United States a widespread distrust of banks and bankers, which has been reflected more than once in Federal and State legislation. The impression is widely prevalent that while banks themselves reap large gains by lending their credit at interest, no corresponding benefits extend to those who borrow from banks. That this belief is without foundation has been suggested in the preceding sections. In banking as in other branches of business competition is a force which compels a sharing of profits with the whole community. The more fully the banker is permitted to utilize his credit either in the form of deposit accounts or bank notes, the lower will be the rate of interest which he can afford to take for his services, and competition may be relied upon to force him to accept this lower rate. The guiding principle in connection with bank regulations should be to grant the fullest liberty that is compatible with a reasonable degree of security. Little fear

need be entertained lest in the long run this liberty will not be used to advance the general good.

#### *REFERENCES FOR COLLATERAL READING*

In addition to the references given in the preceding chapter the following are suggested: \**Dunbar*, The Theory and History of Banking; \**Seligman*, and others, The Currency Problem; \**Muhleman*, Monetary and Banking Systems; *Bolles*, Practical Banking; *Cenant*, History of Modern Banks of Issue; *Knox*, History of Banking; *Hadley*, Economics, Chap. VIII.

## CHAPTER XVI

### FOREIGN EXCHANGE AND SOME UNSETTLED MONETARY PROBLEMS

140. **The Nature of Foreign Exchange.**—In foreign as well as domestic trade credit now serves as the principal medium of exchange. Those who purchase goods from abroad pay for them by buying drafts, or postoffice, express or cable money orders and sending the latter to the foreign seller, or by permitting the foreign seller to draw on them by means of drafts, or bills of exchange, for the sums due. Orders for the payment of money in a foreign country are called "foreign exchange," and the buying and selling of such exchange is, as already suggested, a usual part of the business of a modern city bank. A description of the factors that enter into this business as it is conducted between the United States and the United Kingdom will serve to introduce a discussion of some of its more general aspects.

Anglo-American trade now includes as varied transactions as the trade between different sections of either country. In addition to commodities, stocks, bonds and other securities are constantly dealt in between the two countries; profits, rents, interest and even wages are transmitted; freight charges are paid; travelers abroad receive remittances from home, and finally bankers' loans are exchanged. If these different transactions be looked at from the point of view of one of the countries, say, of the United States, they arrange themselves under two heads: those involving payments to the country and those involving payments by the country. The first may be

thought of as credits acquired by the United States. These arise from sales of commodities or securities, from payments in the way of profits, rents, interest or wages due to Americans from the United Kingdom, from the expenditures of Englishmen in the United States and finally from loans by English to American bankers. The second may be described as debits, and arise from the opposite transactions, *e. g.*, purchases of commodities or securities, loans to English bankers, etc.

For reasons which it would take too long to explain the custom has arisen of making London the clearing house for the credit instruments used in connection with foreign trade. Americans having payments to make in England usually buy drafts payable in London and transmit them to their creditors. Americans who are creditors of Englishmen, on the other hand, usually draw drafts or bills of exchange, payable in London, upon their debtors, in preference to waiting for the latter to remit. They sell these to bankers, who send them to their correspondents in London for collection. Orders for money payable in London are known as "sterling exchange" because they call for pounds sterling. If the orders for payments to English creditors are exactly offset by the orders for payments by English debtors, the credit instruments which arise in connection with the various transactions described will just balance one another when they come together in London and no other medium of exchange than credit will be required. This outcome, where transactions are so vast, is, of course, very unusual. It more frequently happens that there is a balance either on the credit or on the debit side to be liquidated by means of further transactions.

**141. Sterling Exchange and the Gold Points.**—The rate at which sterling exchange is quoted in the United States never departs very far from the sum in American dollars into which the 113 grains of gold in the standard English coin, the sovereign (equivalent to one pound ster-

ling), will be coined by our mints. This is called the "par of exchange" and is \$4.866. The rate of sterling exchange fluctuates within narrow limits about this par because the alternative that is always open to American bankers and brokers who have debts to pay or to collect in the United Kingdom is to export or import standard gold coin. The limits within which sterling exchange normally fluctuates are called the "gold points" and are now approximately for demand exchange \$4.84 $\frac{1}{4}$  and \$4.88. That is to say, when the rate for sterling exchange falls as low as \$4.84 $\frac{1}{4}$  the margin between this and par rather more than suffices to cover freight, insurance, loss of interest, etc., on the sovereigns that may be imported and exchanged, if of full weight, @ \$4.866 for American coins at our mints. Under these circumstances there is always an active competition among bullion brokers to buy sterling exchange as it approaches \$4.84 $\frac{1}{4}$ . The more they can buy at this low rate the larger the profit they can make by importing the gold for which it calls. This competition prevents the rate from falling lower. On the other hand, as the rate of sterling exchange rises toward \$4.88 it begins to be profitable to export American gold to be converted into English money in order to sell exchange against it at the premium. The margin between the high rate and par now covers the freight, insurance, loss of interest, etc., on American gold sent to London and as before the competition of bullion brokers prevents the rate from rising above the upper gold point. In determining the gold points stated interest is figured at six per cent. A higher rate widens the gap between the gold points; a lower narrows it.

**142. The Rate of Sterling Exchange.**—The rate of sterling exchange is determined from day to day by the relation between the demand for it and its supply. All of the transactions which have been enumerated as belonging

on the debit side, from the point of view of the United States, give rise to a demand for sterling. The supply comes from the transactions enumerated on the credit side. International bankers and others who buy and sell foreign exchange tend by their competition to adjust the rate so that the demand and supply will just balance. Excess on the side of supply causes the rate to fall, the limit being the lower gold point, at which credit is abandoned as a medium of exchange and gold is used instead. Excess on the side of demand causes the rate to rise, the limit here being the upper gold point, at which credit again is discarded and gold used. Gold thus serves as the medium in which international balances are settled when debits and credits fail to offset each other.

Among the transactions which give rise to debits and credits the most sensitive are those we have characterized as bankers' loans. Anglo-American banking houses, of which there are many, divide their banking capital between London and New York. Self-interest leads them to keep the major part of this capital and of their entire loanable funds at that center in which the higher rate of interest prevails. Suppose that for a time this center happens to be New York—as it usually is. To take advantage of the high rate, bankers will wish to transfer their funds from London to the more profitable loan market. They will do this most cheaply by selling drafts on London so long as they can get a price for these drafts above the lower gold point. A rising rate of interest in New York thus serves to attract loanable funds from abroad, and these add to the supply of sterling bills. This cause may serve to add so largely to the supply that the rate of exchange is forced down to the lower gold point and a part of the transfer is effected by means of an importation of gold. In fact, the Bank of England and the state banks of other countries, which are in a position to control the bank rates of interest, commonly secure gold

when they want it by advancing their rates of discount until the rate of exchange is brought to the gold import point.

More important in their aggregate effect than changes in rates of interest are changes in the prices of the commodities and securities that enter into foreign trade. Falling prices in the United States attract foreign buyers and their purchases add to the supply of sterling bills. Rising prices not only discourage foreign purchases, but stimulate purchases from abroad on the part of Americans, thus adding to the demand for bills. Through these two influences—changes in interest rates and changes in prices—the rate for sterling exchange is kept oscillating backward and forward, but always within the limits fixed by the gold points—always, that is, unless the credit system of one of the countries concerned is seriously out of order.\*

**143. Three-cornered Exchanges.**—In the preceding discussion attention has been confined to foreign exchanges between the United States and the United Kingdom. In actual practice these exchanges are intimately connected with all the other foreign exchange transactions to which the countries are parties. Credit is so much more economical than bullion as a medium of exchange that the latter is only shipped after all of the resources of credit have been exhausted. In the case of the United States some branches of its trade, as, for example, its trade with Brazil, call habitually for payments that are not offset by credits acquired in that country by Americans. Nevertheless, bullion is rarely shipped from the United States to Brazil, because it is quite as satisfactory to Brazilian bankers to receive sterling bills which add to their credits

\* As was, for example, that of the United States in the autumn of 1907, when the premium which money commanded in New York caused gold to be imported from London, although the rate for sterling exchange stood near the point at which gold is normally exported.

in London, and on the basis of which they can sell drafts to Brazilian importers from Europe. Thus a three-cornered exchange of credit instruments serves to adjust balances, which would otherwise necessitate the shipment of gold back and forth across the Atlantic.

Another complication arises in connection with foreign exchange when the monetary systems of the countries considered are not based on the same standard. Between the United States with its gold and China with its silver, or the Argentine Republic with its paper standard, there is no fixed par of exchange. The general principles regulating rates of exchange are the same in such cases as for two countries with the gold standard, but the range within which such rates may fluctuate admits of no precise definition. This is an inconvenience that will be avoided only when the gold standard has been universally adopted.

**144. A Country's Gold Supply Regulates Itself.**—The importation or exportation of gold, which is the resort to which international bankers must have recourse when foreign credits and debits can be balanced by no cheaper means, causes a continuous redistribution of the world's supply of that metal. The last and most important point to note in the theory of foreign exchange is that this distribution is self-regulating and always gives to each country that proportionate share of gold which is needed to keep its rate of interest and level of prices in their normal relation to those of other countries. Suppose the cause of the movement of gold from one country to another is a rising bank rate of interest. As gold pours in and is added to bank reserves in the country affected it will tend to check such a rise, and meantime bank rates abroad, where bank reserves have been depleted, will tend to rise to re-establish the normal relation. If the cause of the higher rate in the gold-importing country was some temporary demand for bank loans, bankers will find their reserves too large when the emergency has passed, and will lower their rate of

interest to attract borrowers. Before this process has gone far, an exportation of gold will be likely to set in to re-establish the balance. Suppose, again, that the importation of gold has been induced by the low prices at which commodities are being sold in the importing country. Such importation will before long itself cause prices to rise, there being more money to serve as a medium of exchange than before, while the withdrawal of gold from other countries will in time cause their prices to fall. These results will follow the more promptly because ordinarily the new gold will find its way into bank reserves and will add to the use of credit as a medium of exchange much more largely than it adds to the country's supply of standard money. In the same way its exportation will serve ordinarily to deplete bank reserves and to cause a contraction of credit that will lessen the supply of media of exchange by much more than the amount of gold lost. By these means the movement of gold in one direction is soon checked with every likelihood that a counter-movement will follow, unless the new distribution proves permanently satisfactory because of some increased need on the part of the importing country.

It follows from the above considerations that the importation or exportation of gold is not a matter of any special importance either to the business community or to the government unless a country's monetary system is in an unsound condition. If gold is leaving a country, as it left the United States in 1893, because its place is being taken by an excessive issue of credit money, grave uneasiness may well be felt. If, on the other hand, it is being imported because of a violent contraction of credit that has suddenly increased the demand for legal money as a means of payment, as it was into the United States in the autumn of 1907, there is again ground for anxiety. Experience of movements of gold excited by causes like these has led American business men to attach exaggerated

importance to this phenomenon even when the reasons for it are perfectly normal. There is a widespread belief, inherited from the Mercantilists of the eighteenth century, that to gain gold is an advantage and to lose it a disaster. Even in countries which produce no gold themselves there is no basis for this belief. They can count confidently on retaining their proportionate share of the world's gold so long as their money and credit systems are sound. For a country like the United States, which contributes each year more than one-fourth of the total addition to the world's gold supply, the belief is absolutely groundless, since the normal condition for the United States is to export its surplus gold, as it exports its surplus cotton and wheat.

**145. The Value of Gold and Prices.**—Although the subject of money was one of the first to engage the attention of economists and thousands of volumes and pamphlets have been written concerning it, there is still great difference of opinion in regard to some of the problems which it presents. These have been styled "unsettled," to warn the reader that in the following sections controverted points are considered and that he must be on his guard against accepting too readily the opinions of the author. The first problem relates to the factors which determine the value of money or—what is the same thing—the level of prices.

The influences which connect the value of the dollar of the United States with the value of 23.22 grains of gold have already been explained (Sections 125-126). So long as these continue active the gold standard must be maintained and "the value of money" will be merely another expression for the value of gold. Our problem reduces therefore to an explanation of the circumstances which determine the value of gold. In previous chapters it has been shown that the value of any commodity depends transiently upon the temporary relation between the de-

mand for it and its supply and in the long run on the more permanent influences which adjust the normal supply to the normal demand. The demand for a commodity springs from the various uses to which it is put. In the case of gold we may distinguish these as the industrial and arts uses, which give rise to what we will call the "arts demand," the use as a medium of exchange, which gives rise to the "monetary demand" proper, and the use as a reserve of value for the redemption of credit money and credit instruments generally, which gives rise to a secondary monetary demand, which we will call the "reserve demand." An increase in either of these three forms of demand tends to increase the value of gold and incidentally to withdraw it from other uses to the use in connection with which the increase in demand has arisen. On the other hand, a decrease in the supply of gold will tend to increase its value. Unless the increased demand is balanced by an increased supply or the decreased supply by a decreased demand, the increase in value will actually occur and the level of prices will fall. Exactly opposite results, of course, follow a decrease in either form of demand or an increase in supply.

**146. The Demand for Gold or Money.**—The demand for gold—which under our free and gratuitous gold coinage system is the same as money—is as definite and limited as is the demand for any other commodity. For it is not true, as some writers have stated, that "money is the one thing of which no one ever has enough." Such a view confuses the desire for wealth in general with a demand for money and loses sight of the fact that the amount of money each one can use advantageously depends on the amount of his wealth and the nature of his business. The limitations on the demand for gold, or money, become evident as we consider the three different kinds of demand.

The arts demand is very general and highly elastic. At present it is believed to absorb between one-fifth and one-

fourth of the annual production, and in the future it may be depended upon to increase with the growth of the world's population and wealth. The monetary demand for gold depends on the number of exchange transactions to be effected with gold coin as the medium. No exact calculation of the number of exchanges to be effected can be made, but it is obvious that this is only because of the incompleteness of our information and not because the number is not limited and measurable. As already pointed out only a small proportion of the exchanges that are effected use gold as their medium. The vast majority employ credit in its various forms. In the United States gold coin is hardly used at all as a medium of exchange east of the Mississippi River. Where money is required, the various forms of token and credit money supplied by the Government are found more convenient. Moreover the use of money of any kind is the exception rather than the rule in all advanced countries. Book-credit, checks, drafts, money orders, bills of exchange, etc., are the usual means of payment employed by twentieth century business communities. In consequence the monetary demand for gold is the least important of the three forms of demand and the one most likely to decline in relative importance in the future, because of the increasing preference of progressive countries for forms of credit as their media of exchange.

The reserve demand for gold includes not only the demands of governments which have to provide for the redemption of their token and credit money and of banking institutions which have their credit obligations to meet, but also the demand of individuals who wish for any reason to have by them a store of the precious metal. This demand has increased greatly in the last thirty years in consequence of the fact that most of the countries which have established the gold standard during that period, have contented themselves, as has the United States, with

securing sufficient gold to insure the convertibility of their other forms of money without actually withdrawing these from circulation. This has necessitated in all parts of the world the accumulation of large gold reserves. Exact statistics in regard to the extent of the gold reserves held by all the governments and banking institutions throughout the world are not available, but judging from the amount of gold that is known to be held in the United States and some of the leading countries of Europe, it is safe to say that more than one-third the entire stock of gold in existence is required to satisfy the reserve demand. Moreover, if our anticipation that the monetary demand for gold will decline in the future is well grounded, there must be a relative increase in the reserve demand, since every extension of the use of credit implies additional reserves on the part of the governments or banks which supply the credit media. This increase will not be as rapid as it has been in the recent past when one country after another has adopted the gold standard and there has been at times a veritable "scramble for gold," but it should cause the monetary and reserve demands for gold combined to keep pace with the growth of population and wealth. Considering all three forms of demand together we may conclude that the demand for gold in coming years is likely to grow at about the same rate as the world's wealth, but that it will be subject to violent fluctuations until the machinery of credit is so perfected that it is no longer liable to the periodic break-downs which were so common during the last century.

**147. The Supply of Gold.**—The supply of gold admits of more exact measurement than the demand for it. According to different authorities the world's stock by 1850 equaled between \$2,000,000,000 and \$3,000,000,000. The production since that date has amounted to about \$8,000,-000,000, so the present stock is between \$10,000,000,000 and \$11,000,000,000. The history of gold production

since 1850 is briefly summarized in the following statistics. From 1851 to 1860 the annual production averaged \$133,000,000, attaining in the latter year the value of \$134,000,000, which was not equaled in any subsequent year until 1892. The lowest point was reached in the early eighties, since which time there has been a fairly steady increase, as shown by the following table:

*World's Production of Gold*

Annual average, 1871-1880.....	\$115,000,000
" " 1881-1885.....	99,000,000
" " 1886-1890.....	113,000,000
" " 1891-1895.....	161,000,000
" " 1896-1900.....	258,000,000
" " 1901-1905.....	322,000,000
" " 1906.....	400,000,000
" " 1907.....	405,000,000

As these statistics indicate, the production of gold responded but slightly to the increased monetary and reserve demands prior to 1895. Since that date the response has been increasingly adequate. In consequence of the South African War production was temporarily interrupted in 1900 and 1901. In 1902 the upward trend was resumed and since 1903 each year's output has established a new high record, with every indication that production on an ample scale will be continued for some time to come.

A comparison of the tendencies that have been described as regards the demand for and the supply of gold since the early seventies suggests the probability that during the period of expanding demand and small production which preceded 1896 the value of gold would have appreciated markedly, and that with the return of demand to normal conditions and the notable increase in production since its value would have depreciated. That just such an up and down movement—or down and up movement, if we look at the phenomenon from the viewpoint of prices—occurred, is proved by a study of the statistical evidence.

**148. How the Value of Money or Gold is Measured.—**The value of money is measured, as is the value of any-

thing else, by the quantity of other commodities for which it will exchange. When two periods are to be compared a difficulty arises because the value of money will be found usually to have changed in different directions as regards different commodities. This is avoided by the method of index numbers. To illustrate its use, suppose that wheat, anthracite coal, pig iron, cotton cloth and copper be taken as representatives of all commodities, and that it be found that on January 1st of a certain year one dollar would buy one bushel of wheat, one-fifth of a ton of anthracite coal, one-twentieth of a ton of pig iron, twenty yards of cotton cloth or ten pounds of copper, while on January 1st of another year a dollar would command three-fourths of a bushel of wheat, one-fourth of a ton of coal, one-tenth of a ton of pig iron, twenty-five yards of cloth or five pounds of copper. Using 100 as an index number for the different commodities we should write out the following tables for the two dates:

JANUARY 1, FIRST YEAR		JANUARY 1, SECOND YEAR	
\$1 = 1 bushel wheat...	= 100	\$1 = 3-4 bushel wheat..	= 75
" = 1-5 ton coal.....	= 100	" = 1-4 ton coal.....	= 125
" = 1-20 ton iron....	= 100	" = 1-10 ton iron.....	= 200
" = 20 yards cloth....	= 100	" = 25 yards cloth....	= 125
" = 10 pounds copper..	= 100	" = 5 pounds copper..	= 50
<hr/>		<hr/>	
\$5	=	500	\$5
or \$1	=	100	or \$1
			=
			575
			115

The calculation indicates that the value of a dollar, as measured in these five commodities, increased between the two dates from 100 to 115, or 15 per cent. By extending it to include all commodities, we could obtain similar averages for the two dates that would seem to give a comprehensive view of any change in the value of money that might have occurred between them.

This method, called that of simple averages, is open to the objection that it treats all commodities as of equal importance in their influence on the value of money. It is obvious that there will be chance of error if such diverse

goods as, for example, coal and chewing gum each be given the same index number for the purpose of a calculation. To avoid this three different expedients have been proposed: (1) to confine the calculation to the principal commodities which figure in a country's trade or consumption; (2) to assign different index numbers to different commodities "weighted" so as to correspond to their different degrees of importance; (3) to repeat important commodities in different forms in the calculation so that they will have greater influence on the result than unimportant commodities that appear but once. Space will not permit a detailed consideration of the merits of these different plans, but the general observation may be made that in practice the method of simple averages, judiciously employed, has been found to yield as accurate conclusions as the more elaborate methods proposed as substitutes for it.

Whichever method for measuring the value of money, or gold, be used, it is usually more convenient to make the calculation in terms of the prices for which commodities sell than in terms of the quantities of commodities which a given sum of money will purchase. Any conclusion in regard to changes in prices may be readily translated into a conclusion in regard to the value of money, since, as already explained, they are in reciprocal relation to each other. To give a concrete example, suppose that a study of prices shows a rise of 25 per cent in the general level during a given period. This signifies that commodities which formerly cost \$1.00 will now cost on the average \$1.25. This being the case, \$1.00 will now purchase only four-fifths as much as it would before, or its value will have fallen one-fifth, or 20 per cent.

**149. Price Statistics and Changes in the Value of Gold.**—Since serious attention began to be given to the influence of price fluctuations on prosperity, numerous elaborate investigations have been made into the course of wholesale prices over long series of years. Representa-

tive of such investigations and as trustworthy as any is that carried on by the United States Bureau of Labor,\* the results of which are indicated on the chart opposite.

Unfortunately this investigation begins no farther back than 1890, so it is necessary to supplement it with the results shown by other inquiries. A comparison of all important investigations tracing the course of gold prices from 1870 to 1890 proves conclusively that the fall in prices during the years 1890 to 1897 indicated on the chart was the culmination of a downward movement which began in the early seventies and which involved a total decline of nearly if not quite 50 per cent, or, what is the same thing, an appreciation of 100 per cent in the purchasing power of gold. After 1897, as shown by the chart, prices rose continuously—except for slight reactions in 1901 and 1903—until the autumn of 1907, the total advance in the decade being over 44 per cent, or involving a depreciation in the value of gold of nearly 31 per cent. The “October panic” abruptly checked this upward tendency and the index number for the current year (1908) will undoubtedly show a more serious reaction than did those for 1901 and 1903. Whether this check, like the earlier ones, is to be temporary only and prices are to resume their upward swing with the return of prosperity, to the indefinite cheapening of gold, is a question the answer to which must have a determining influence on the future of the gold standard. But before we proceed to this topic, we should pause to consider the influence which these marked changes in the value of gold have had in shaping public opinion in regard to the merits of that metal as a standard.

\* Price statistics in regard to the 250 odd commodities included in the investigation together with the index numbers showing the course of average prices for the whole period covered are published each year in the March number of the *Bulletin of the Bureau of Labor*. For a full description of other calculations, see Laughlin, *Principles of Money*, Chap. VI.

## RELATIVE PRICES OF ALL COMMODITIES, 1890 TO 1907

[Average price from 1890 to 1899 = 100.]



150. International Bimetallism.—The adoption of the single gold standard was vigorously opposed not only in the United States, but in European countries, on the ground that the supply of gold was inadequate to satisfy

the needs of all nations. It was long contended, and is still by many thoughtful persons, that a much better monetary system for the world would be one which combines both gold and silver. Some countries, like England and her colonies, which have long had the gold standard, might continue on that basis. Others, like Mexico and China, which are accustomed to silver only, might maintain the silver standard. The best interests of all would be served, it is argued, if the remaining countries, which use both gold and silver, could agree upon some scheme of "international bimetallism" which would establish a fixed value ratio between gold and silver and insure their continued use as the standard money materials of the world.

For a time it seemed as though the fears of bimetallists in reference to the insufficiency of the gold supply were well grounded. Gold prices did, as we have seen, fall with alarming persistency, and the effect of the steady decline on the temper of the business community was decidedly unfavorable. If the suggested remedy could have been applied in 1873, the results might have been generally beneficial. Nothing was done, however, notwithstanding repeated international conferences, and after 1897, when gold prices began to rise again, the principal reason for action was removed. At present it is the general consensus of opinion that "international bimetallism," even if economically and politically practicable, is no longer needed and that any international agreement that is made should have for its object the extension of the gold standard to the few countries that are still on silver and paper bases, with a view to giving greater stability to foreign exchange relations. In other words, gold has been accepted as the standard of value of the world, and the monetary problem of contemporary interest is how to extend this standard to countries which for special reasons do not care to make gold coin, even on a limited scale, their medium of exchange.

In the United States the agitation for bimetallism assumed a more radical form than in Europe, the demand being made that the country embark alone upon the attempt to maintain a constant value ratio between gold and silver by throwing its mints open to the free coinage of the cheaper metal at the mint ratio of 16 to 1. This was made the dominant issue in the presidential campaign of 1896, when the Republicans opposed to the Democratic declaration in favor of the free coinage of silver a somewhat vague endorsement of international bimetallism. Again in 1900 free coinage was an issue, but already the reasons for the agitation had been withdrawn and there seems little likelihood of a revival of the question, at least in the same form. So fast has history been made in this field that what was but yesterday a burning political issue is now a question of merely historical interest.

**151. The Future of the Gold Standard.**—The future of the gold standard hinges upon the questions whether the value of gold is likely to show a fair degree of stability in coming years, and whether any more stable standard, which is equally convenient in other respects, is attainable.

As to the first point, present indications are believed to be very favorable. The transition to the gold standard has been accomplished, or is in a fair way to be accomplished in the near future, for the whole commercial world. Under these circumstances there is every reason to anticipate only that gradual increase in the world's demand for gold that will result from the gradual growth of the world's wealth and expansion of its exchange transactions. On the side of supply, production in the immediate future promises not only to be ample, but to be governed more exactly by the normal expenses of production than it ever has been in the past. Discoveries of new sources of supply and inventions affecting methods of mining and refining have, during the last ten years, advanced gold production in many parts of the world to the precision of a man-

ufacturing industry. In quartz mining in the Rand district in South Africa and in placer mining in the low-grade gold-bearing soils, which it is now profitable to treat by means of expensive hydraulic appliances, the expense of producing gold can be accurately estimated and the output can be increased or decreased on a considerable scale as changes in the value of the product make either course desirable. Thus the normal expenses of production promise to be the regulator of the value of gold in the future, as they have been of other freely reproducible goods in the past. During the last ten years a readjustment has been going on in consequence of the discovery of new gold fields and of cheaper methods of recovering the precious metal. But unless the discovery of other and even cheaper sources of supply intervenes, the fall in the value of gold cannot long continue because every advance in prices which accompanies it makes gold mining more expensive. Materials, tools, machinery, wages and other items of expense rise as gold falls. As a result the margin at which gold mining continues to be profitable is a progressively higher one and the production of gold must be checked correspondingly. It would be idle to venture to prophesy in regard to the future course of the value of gold, but this at least may be said: Unless new and cheaper sources of supply are discovered, there is every prospect that its value will be more stable during the next decade than it has been at any period during the last sixty years.

**152. The Multiple Standard.**—Those who believe that the gold standard will one day be superseded base their faith, not on any alleged advantage of some other commodity standard of value, but upon dissatisfaction with all commodity standards. Perfect stability of value is certainly unattainable along this line. One remedy suggested is the adoption of an immaterial standard, called the "multiple standard," whose value may be kept uniform by artificial regulation. The plan is somewhat as fol-

lows: Since the value of the monetary unit is determined by the relation between demand and supply, and since paper money is the medium of exchange preferred in the more advanced countries, let each Government take upon itself the regulation of its monetary system and substitute fiat for self-regulating money. Let a special department of issue and redemption be created to adjust the supply of such money to the demand for it in such a way that the general level of prices shall be kept uniform from month to month and year to year. This may be done, it is suggested, by issuing additional legal-tender paper notes as prices tend to fall and withdrawing such notes—perhaps by the sale of low interest-bearing bonds—as prices rise. The measurement of prices might be made by means of index numbers in some such way as was described in a previous section and the effort would be to keep the index number constantly at 100.

Space will not permit discussion of the possibilities of a fiat, multiple-standard monetary system. There is, perhaps, no good theoretical reason for asserting that such a system could not be maintained by a country that was politically and commercially ready for it. On the other hand, no extended argument is necessary to show that at the present time the plan must be dismissed as impracticable, especially as there are grounds for doubting whether it would prove, in operation, as satisfactory as the single gold standard promises to be for the immediate future.

#### REFERENCES FOR COLLATERAL READING

\* *Clare*, A B C of the Foreign Exchanges; \* *Pierson*, Principles of Economics, Part II., Chap. III.; *Goschen*, Theory of the Foreign Exchanges; \* *Johnson*, Money and Currency; \* *Laughlin*, Principles of Money; *Walsh*, The Measurement of General Exchange Value; \* *Taussig*, Silver Situation in the United States; \* *Walker*, International Bimetallism; \* *Sound Currency Redbook* (published by Committee of the New York Reform Club); *Russell*, International Monetary Conferences.

## CHAPTER XVII

### THE TARIFF QUESTION

153. Foreign and Domestic Trade Contrasted.—The difference between foreign and domestic trade is a difference of degree only. It happens that the continent of Europe is divided up among more than a dozen different sovereignties, and this causes trade among its different parts to be largely foreign. On the continent of North America, on the other hand, it happens that only three sovereignties are represented. Of these the United States alone controls an area nearly as large as the continent of Europe and presenting equally striking diversities of soil and climate. Trade among different sections of the United States is domestic, and yet the same considerations which, for example, cause California to produce oranges, lemons and olives for the rest of the country, cause Italy to produce the same things for the rest of Europe. In both instances trade results from the efforts of men to realize the economies connected with a territorial division of labor, that is, to devote each particular area to those products for which it is best adapted, while securing from other areas, by means of exchange, their special products.

Although foreign and domestic trade are thus controlled at bottom by identical principles, economists are in the habit of singling out the former for special treatment, partly because it is frequently subjected to regulations from which the latter is exempt, and partly because back of these regulations are differences in race, nationality and political ideals which play their part in shaping economic conduct. One effect of these differences has already been

noted, that is, the unreadiness of workmen to give up home and country for the sake of the higher earnings that may be obtained in other places. In consequence of this "immobility of labor," differences in wages between different countries persist generation after generation and play their part in shaping foreign trade. Differences in interest rates traceable to the immobility of capital, although less marked, are not without their influence also.

The guiding principle which controls foreign trade is summed up in the statement that each country produces for export those things which it can produce most cheaply, and imports in exchange those things which other countries can produce most cheaply. In the absence of trade restrictions, the capital and labor force of each country tends to be assigned to those branches of production for which it has the greatest natural or acquired aptitude. The selection is not determined absolutely, but by comparative standards. That is, one country may have an absolute advantage over other countries for the production of hundreds of different commodities, but its interest and wage rates may be so much higher—in consequence of these very advantages—than those of the latter, that it can produce more *cheaply* than they only the score or more of these commodities in which its superiority is most pronounced. Other countries must find employment for their capital and labor also and by submitting to lower interest and wage rates will be able to produce some commodities more cheaply, even though with greater expenditure of time and effort, than the superior country. An illustration of the way in which a country may produce for export commodities which it cannot produce as easily as the importing country is afforded by the trade between the United States and Germany. The former imports from the latter cutlery, beet sugar and several other commodities which it could produce with less effort than their production in Germany costs. Such trade is, nevertheless, mutually advan-

tageous, because on the side of Germany it permits a utilization of capital and labor which yields larger returns in wheat, salt meat and the other goods that are imported from the United States than could be secured by the direct production of these things, while on the side of the United States it enables the country to secure the commodities imported in exchange for wheat, salt meat, etc., with less expenditure of effort than would be involved in their production. The situation of a country is not unlike that of an individual. It has a limited force of labor and capital to employ and secures the largest return by concentrating these where they are most effective. Just as it does not pay a successful lawyer to do his own typewriting, no matter how expert a typewriter he may be, so it does not pay a country to do many things it could do more easily than its neighbors, because there are other things it can do still more easily and that, therefore, pay better.

#### 154. The Tariff Question: Protection vs. Free Trade.

—As already stated, most countries subject their foreign trade to restrictions from which their domestic trade is exempt. These restrictions usually take the form of a tariff or taxes on goods as they enter or leave the country. When a tariff has for its principal purpose the protection of home producers from foreign competition in the home market it is called a "protective tariff" and the resulting policy is designated "protection." As a preparation for discussing the arguments in favor of such a policy we may profitably recall the advantages that are claimed for free trade.

As pointed out in the preceding section, the chief purpose of foreign, as of domestic, trade is to render possible the division of labor and the economies resulting from it. That this purpose will be most fully realized in connection with domestic trade if free exchange is permitted, is generally conceded. Under such circumstances each individual will tend to devote his labor and capital to that pursuit for

which he is best fitted and will obtain from other specialists, through exchange, the varied products he requires. Obstacles to free exchange prevent the full realization of this division of labor by limiting the market for the products of specialists and thus compelling them to produce for themselves, or go without, some of the things they might otherwise obtain by exchange. But the same reasons that make free exchange within a country advantageous may be urged in favor of free trade among countries. Political boundaries do not alter the essential facts that trade is at bottom an exchange of goods for goods in which both parties are gainers, and that the freer the conditions of exchange the more highly will the division of labor be developed. Differences in the productive capacities of different countries fit some to produce some things, others, others. If free trade be permitted, each will tend to produce only those things for which it is best adapted and to rely upon other countries for the other things desired and in the production of which the latter have a relative advantage. The consequence will be a larger joint produce and a larger share of wealth for each country than it could secure if compelled to produce for itself all of the things that its inhabitants require. If restrictions on trade are to be approved, it must be because they accomplish results that compensate a country for the undoubted losses which they entail.

155. **Arguments in Favor of Protection.**—The principal economic arguments in favor of protection may be distinguished as the infant-industry argument, the home-market argument, the wages argument and the vested-interests argument. Of these, the first two were urged in the United States as reasons for establishing a protective policy; the last are advanced as reasons for adhering to it now that it is established. All merit careful consideration.

The infant-industry argument is presented in both a special and a general form. As it applies to special in-

dustries it rests on a recognition of the risks and difficulties which attend the domestication of new branches of production. In the successful prosecution of any industry three factors co-operate: the requisite natural resources, skilled and unskilled workmen of different grades and the appropriate forms of capital. As regards each one of these, the country which has practised an industry has a marked advantage over the country which has not. The natural resources of the latter may be superior, but they are undeveloped; its labor force may be ample and adaptable, but it is untrained; its people may be competent to use tools and machines, but they have no familiarity with the special forms of capital needed. Under such circumstances the encouragement of a protective tariff may suffice to induce investors to establish the new industry when without it they would not venture on such a step. After a few years, if the industry to be domesticated has been wisely chosen, the initial difficulties will have been surmounted and the protective duty may be withdrawn without detriment to the now vigorous infant. Advocates of such a policy recognize quite clearly that resort to protection entails a burden on consumers. They justify the temporary loss on the ground that the establishment of the new industry on a permanent footing will afford in the end a more than compensating gain.

The infant-industry argument in its general form recognizes that countries must usually pass through different stages of industrial development and advocates protection as a means of accelerating progress during periods of transition from one stage to another. Thus the policy of protecting manufacturing industries generally may be advantageous for a country which has been predominantly agricultural but which aspires to become a manufacturing state. Through it entrepreneurs may be encouraged to invest in manufacturing enterprises, farm laborers may be trained into efficient factory workers and the natural re-

*An old business man / - man  
to be well*

sources of the country necessary to manufacturing industries may be developed. Here again protection is defended as a temporary expedient for transforming an agricultural into a manufacturing country rather than as a permanent national policy. Forceful as this first argument is, therefore, as applied to new industries or new countries, it has ceased to have any great significance for a country as highly developed industrially as is the United States to-day.

The home-market argument, as advanced by Henry Clay, the "father of the American System," is designed to reconcile the interests of the agricultural South and West with those of the manufacturing North. It rests upon the proposition that the prosperity of the American farmer depends upon a regular and constant market for his products, and that such a market is to be obtained only by building up manufacturing centers within the country. When this argument was first used, the experience of the years from 1816 to 1820 was cited to prove that the foreign market is not to be depended upon and farmers were exhorted to unite with manufacturers to establish a system which should bind different sections of the country together by furthering the interests of all. To the greater stability claimed for the home market later analysis adds another merit. The home market calls not only for the staple products which will bear ocean transportation, but also for all kinds of perishable goods. Substituting it for the foreign market renders possible diversified farming and enables cultivators to substitute for exhausting, one-crop systems of agriculture, rotations of crops which serve to preserve and perpetuate the fertile properties of the soil. This advantage is believed by protectionists to outweigh the admitted losses incidental to the protective policy and to insure in the long run a greater degree of prosperity than will result from the free play of economic forces. This second argument also, from the point of view of the United States, is less forcible now than when it was first advanced.

Improvements in transportation facilities have largely obliterated the differences between the home and the foreign market, and more settled trade policies on the part of other countries have made the foreign market more dependable than it used to be. It is not, therefore, of these first two arguments that most is now heard, but of the two still to be considered.

**156. Protection in the United States since the Civil War.**—The present stage in the development of the protective policy of the United States has been the outgrowth of the Civil War. That struggle involved the withdrawal from Congress of the representatives of the Southern States, who had been the most active opponents of protection. Under the guidance of representatives from the North successive tariffs were passed carrying the policy to the most extreme lengths which the country had known. The change in the level of duties caused by the War is indicated by the fact that whereas under the Act of 1857 the *highest* duties imposed were 24 per cent *ad valorem*,\* under the Act of 1864 the *average* rate of duty on dutiable articles was over 47 per cent. During the first fifteen years after the close of the war the attention of Congress was occupied by questions of reconstruction, the resumption of specie payments, etc., and no change of importance was made in the tariff except that it became increasingly protective as the internal revenue duties were one by one removed. When attention was again concentrated upon the tariff question the protectionists were still in control of Congress. The tariffs of 1883 and 1890 were both modifications in the direction of higher duties. The Act of 1894 was a reactionary measure, but was so garbled in its passage through Congress that the tariff-reform president of the period, Mr. Cleveland, allowed it to become a

\* *Ad valorem* duties, or duties based on value, are to be contrasted with *specific* duties based on quantity (*e. g.*, so much a pound or a bushel).

law without his signature. The victory of the Republicans in 1896, although little related to the tariff issue, involved as an incident a return to a highly protective policy. In fact the Dingley Act of 1897 marks the extreme limit to which that policy has been carried in the United States.

During this last period the wages argument and the vested interests argument have played an important rôle. Before protection became the established policy of the country, one of the reasons urged in its favor was that, since wages were higher in the United States than abroad, some special encouragement was necessary to the introduction of new industries to enable employers to compete with the low-wage labor of Europe. After protection became a settled fact, by an interesting inversion, *it* began to be given credit for the high wages of American labor. The wages argument runs as follows: In protected industries higher wages are paid in the United States than in similar industries abroad. Protection, therefore, causes high wages, and its withdrawal must tend to pauperize American labor. This overlooks certain important considerations. First, equally high wages are paid in unprotected as in protected industries, and the former, which in the United States include farming, mining, transportation and many branches of manufacturing, vastly exceed the latter in importance and magnitude. Second, employers, whether protected or unprotected, desire to secure their labor as cheaply as they can and there is nothing in a protective tariff which forces them to pay higher wages than are current in the community in which the protected industries are located. In other words, employers in protected industries pay the wages they must to get the labor they require, and these depend not upon the protective tariff, but upon general industrial conditions. Third, it is not true that high wages and protection always go together. For example, wages in protectionist Germany are lower than in free-trade England. For these reasons the wages argument,

although effective for campaign purposes, has never enjoyed much repute among trained economists.

Side by side with the wages argument, with its appeal to the "labor vote," is urged the vested-interests argument, which appeals especially to conservative owners of property. This emphasizes the loss of capital that must result if the protection that certain industries enjoy be withdrawn and these industries be exposed to the full force of foreign competition. That some capital would be lost in the process of readjustment to free trade conditions cannot be denied. It would seem more rational, however, to advance this as a reason for making the transition from protection to free trade gradual rather than as a reason for the indefinite continuance of protection—unless convincing independent arguments can be given for that policy.

Quite as influential as the economic arguments in favor of protection that have been reviewed, has been the ambition of American statesmen to cement the bonds which unite different sections of the country by means of a tariff which should make them mutually dependent and at the same time independent of Europe. This was to be accomplished by developing the division of labor to the highest point within the country, without giving any encouragement to the international division of labor upon which foreign trade rests. Horace Greeley, the influential editor of the *New York Tribune*, expressed this view of protection with his usual clearness in the following declaration: "If I had my way I would put a duty of \$100 a ton on pig iron, and a proportionate duty on everything else that can be produced in America. The result would be that our people would be obliged to supply their own wants, manufactures would spring up, competition would finally reduce prices and we would live wholly within ourselves." From this point of view the chief function of protection is to serve as a Chinese wall to preserve the United States from the contamination of foreign influences. Uneconomic as such an

ideal must appear, it cannot be doubted that it makes a strong appeal to many patriotic citizens. But for it tariff controversies in the United States would have had little of the moral earnestness which has characterized them whenever protection has been the issue.

157. The Tariff of 1897.—A brief description of the tariff of 1897, still (1908) in force in the United States, will serve to emphasize one argument against protection—that is, its complexity. The act in which this tariff is embodied covers seventy octavo pages and enumerates upwards of 3500 different articles of which some 350 are admitted into the country free of duty and the remainder are subject to taxation. There are fourteen different schedules (lettered "A" to "N") under which dutiable articles are classified. Schedule "K," embracing "wool and manufactures of wool," is fairly typical. In it wool is divided into three elaborately distinguished classes to each of which a special duty is applied. Wools of classes one and two are taxed eleven and twelve cents a pound respectively. Wool of class three, worth less than twelve cents a pound, is taxed four cents and, worth more, seven cents a pound. The rate of taxation on the cheaper grades, worth from six cents to twenty-one cents a pound, is thus from  $33\frac{1}{3}$  per cent to  $66\frac{2}{3}$  per cent. These duties are intended, of course, to protect farmers and ranchers engaged in the production of wool. To protect manufacturers of woollen goods it is necessary to compensate them for the higher prices they have to pay for protected wool as well as to protect them against foreign manufacturers. The tariff accomplishes this object by subjecting woollen goods to both a specific and an *ad valorem* duty. For example woollen yarn, if made of wool worth less than thirty cents a pound, pays a specific duty on each pound equal to two and one-half times, and, if of wool worth more, to three and one-half times the per pound duty on wool of the first class, and in addition an *ad valorem* duty equal to 40 per

cent. Similar mixed duties apply to woolen cloths of all kinds, with the consequence that the tax on consumers of imported woolen goods is very heavy. According to the returns of the custom office for the year 1907 the average rate of duty on wool imported during that year was 41 per cent and the average rate on the manufactures of wool 89 per cent. The rates on other textiles, the raw materials of which do not require protection, are of course less extreme, but the returns indicate that the average rate on imported cotton and silk goods during the same year was 53 per cent.

The above duties on textile goods are among the highest protective duties on the list but the general average on all dutiable articles was 43 per cent in the year referred to, so the duties cited give no exaggerated picture of the burden of taxation which results from the protective system. Nor is the burden adequately represented by the statement that consumers of imported commodities which compete with American products must pay in addition to the freight charges, on the average 43 per cent more than such products are worth abroad. Much heavier is the burden which results from the exclusion of foreign products and the enhancement of the prices of American goods. The higher prices that consumers must pay for protected goods in order that they may be produced at home afford no revenue to the Government, although they add so largely to the expense of living in the United States.

Space will not permit a description of other features of the tariff. The complexity of the wool schedule is matched in the schedules applying to the metals, to wood and manufactures of wood, to silk goods, etc. To master fully any one of these schedules and determine what rates of duty would afford adequate protection without unduly burdening consumers would require months of study of the industries affected, both at home and abroad. To master fully all of them, with the three thousand odd different articles

to which they refer, is a task beyond human capacity. Needless to say, Congress in drafting tariff bills makes no such ambitious attempt. Instead, it contents itself with taking the testimony of interested persons as to the amount of protection their businesses require, and accepts their statements as its guide in apportioning protection to different industries. The bill so prepared by the Committee of Ways and Means in the House of Representatives is submitted to a running fire of criticism and amendment in both Houses, and when finally passed is such a hodge-podge of compromises that even the most earnest advocates of protection are usually forced to express regret that a better measure could not be secured. The complexity of a protective tariff, with its thousands of items and its confusing medley of *ad valorem* and specific duties, applying often to the same commodities, is in striking contrast with a tariff for revenue only like that of the United Kingdom. The latter contains but a few items, and since it serves no special interest, except that of the Government, may be drawn up in a simple and business-like way. Its financial results can be foretold with a high degree of precision, and its capacity to yield revenue is as great as that of the more burdensome protective tariff since it confines itself to articles that are widely consumed.

**158. Present Status of the Tariff Question in the United States.**—Arguments in favor of protection should be carefully weighed against the general argument in favor of free trade, not as abstract propositions, but with reference to the concrete circumstances of each particular country. The result of such a procedure applied to the present industrial situation of the United States is, in the opinion of the author, decidedly unfavorable to the claims of protectionists. National economic independence, the first and perhaps the strongest reason urged in support of protection, has long since been achieved and would not be endangered in the slightest degree by a change of trade policy.

The infant-industry argument in its special form is now applicable to but few American industries, while in its general form it has certainly been outgrown by a country whose manufactured products already compete successfully for a share of the foreign market. The home-market argument has little application to the present situation, when such a large proportion of the staple products of the country seek the foreign consumer in defiance of the tariff and when the consequence of the latter is too often tariff retaliation on the part of other countries much more unsettling in its effects than fluctuations in foreign demand, independent of hostile tariffs, could possibly be. The wages argument inverts the true relation between protection and high wages. High wages are due, as explained in a previous chapter, to the high productiveness of labor, due, in turn, to the superior natural resources of a country, its abundant and efficient equipment of capital goods and the capacity of its entrepreneurs and wage-earners. It is because of high wages that protection is necessary to the maintenance of certain industries in the United States. Without it goods now produced in the country would be imported and paid for by increased production in those lines of industry which need no protection. Since labor and capital are more productive in unprotected than in protected industries, the withdrawal of protection and the concentration of labor and capital in the former might be expected, time being allowed for the necessary readjustment, not to lower wages, but to raise them. Certainly more wealth would be produced under the new arrangement, and labor's chance of getting a larger share would seem as good as that of any other factor in production. Thus instead of raising wages, protection serves on the whole to lower them and is itself necessary because wages were already high before it was introduced. Finally, the vested-interests argument is of weight as a plea against a too hasty reduction of duties upon which important industries

have come to depend, but cannot justify the indefinite continuance of such duties if they no longer serve the best interests of the whole country. The case for protection thus appears on every count to be decidedly weak in comparison with the case for free trade. If the issue were to be decided solely on grounds of economic reasoning, it is believed that the policy of protection would be quickly abandoned.

The present strength of protection in the United States rests, however, less on reasoning than on sentiment and experience. The all-important fact that cannot be argued out of the mind of the practical business man is that protection has been the policy of the country during a period of remarkable industrial prosperity. That this prosperity has been due to other causes he will not believe, or at any rate he prefers to "let well enough alone," and to refrain from disturbing a system which may have had something to do with the country's undoubted progress. Under these circumstances the policy of protection is likely to be adhered to so long as prosperity continues, or until those whose interests would be directly furthered by free trade organize as effectively to oppose protection as interested manufacturers are already organized to maintain it.

**159. The Future Tariff Policy of the United States.—** According to the general argument for free trade, it is the consuming public, which has to pay higher prices for protected goods, that is most injured by protection. But the consuming public constitutes no definite class and its organization as a party of opposition is highly improbable. At certain points, however, the protective tariff of the United States is already subject to vigorous attack by particular consumers. One of these is where it acts as a shield for the combinations of manufacturers or trusts discussed in Chapter XXII. Indications are not lacking that the first breaches in the American tariff wall will be through lowered duties on trust-made goods.

Another aspect of protection that is beginning to receive merited condemnation is its tendency to hasten the destruction of limited natural resources. In the United States important branches of mining, such as coal and iron, are protected, in utter disregard of the fact that this forces the country to use up its own limited supplies of these indispensable materials when it might, in the absence of the tariff, secure at least a part of what it needs from neighboring countries. Protection is also extended to the lumber industry, although it is notorious that the destruction of American forests is progressing at a rate that threatens grave injury even to the present generation. It seems too clear for argument that wise national policy demands the conservation rather than the destruction of limited natural resources such as those mentioned. When the revision of the present tariff, to which the Republican party is committed by its platform (1908), is undertaken, this aspect of the subject is sure to be impressed upon Congress, and there is reason to hope that these most objectionable protective duties may be repealed.

Somewhat less direct than the burden protection imposes on consumers is the injury which it does to producers for the foreign market. They suffer in both a general and a special way. In general, protection, by curtailing imports, curtails the foreign demand for native products, or exports. This must be the case, for in the long run imports and exports pay for each other. A country which will not take the products of other countries cannot sell to them. For a short time they may pay in specie for what they cannot pay in goods, but as pointed out in the last chapter (Section 144), the exportation of gold must soon be checked automatically by changes in interest rates and price levels. Thus the policy of excluding foreign goods from the home market in order that home industries may develop to satisfy its needs, is, from the point of view of producers for export, a policy of repression rather than

of protection. To the same extent that the home market is wrested from foreigners and given to protected home producers, the foreign market is wrested from unprotected home producers. The latter have good reason for complaining that discrimination in favor of industries which need protection is discrimination against them. Until recently, the industries in the United States which produced for export have been the great extractive industries. Now that manufacturers also are beginning to look to the foreign market for their customers, this adverse side of protection, to which they have been conveniently blind in the past, is likely to receive its proper share of consideration.

The special grievance which producers for export urge against protection is that it antagonizes foreign governments and leads to retaliatory measures. Protection is a game at which two can play and which loses much of its interest when participated in too widely. The United States has already been the object of tariff retaliation on the part of Germany and Russia, and if the temper evinced by the foreign press is any criterion, its troubles from this source are only just beginning.

In addition to these economic considerations favorable to tariff reform, there are equally cogent political considerations. The protective tariff of the United States has been the principal source of that pernicious alliance between business and politics which threatens the very life of our democratic institutions. So long as the government protects special industries it is inevitable that those who are financially interested in these industries should attempt to frame party platforms, select candidates and control legislation for their own private benefit. As this simple truth comes to be appreciated by all classes of citizens, many influential persons who have remained indifferent to the economic aspects of the tariff question are certain to become ardent tariff reformers.

The future of protection in the United States is uncertain, as must be the future of any political policy, but indications are not lacking that the trend of events is away from, rather than toward, trade restrictions. Protection, as the term implies, is a policy for the weak rather than for the strong. As the United States becomes conscious of its industrial strength it is likely to tear down its protective barriers and enter the field of free international competition in the same confident spirit as did the United Kingdom half a century ago.

#### *REFERENCES FOR COLLATERAL READING*

\* *Bastable*, The Theory of International Trade; *Fawcett*, Free Trade and Protection; *Sumner*, Lectures on the History of Protectionism in the United States; \* *Patten*, The Economic Basis of Protection; *Thompson*, Protection of Home Industry; \* *Taussig*, Tariff History of the United States and State Papers and Speeches on the Tariff; *Stanwood*, American Tariff Controversies in the Nineteenth Century.

## CHAPTER XVIII

### THE LABOR MOVEMENT

160. **The Disadvantages of Wage-earners as Bargainers.**—The treatment of wages in the chapters on Distribution was open to the charge of being unduly abstract. The assumption that competition has free play among workmen and employers involves a disregard of palpable facts and must, for many readers, have weakened the force of the conclusion that under such circumstances workmen of the same grades of capacity tend to secure the same rates of wages in each labor market and that in general these rates tend to be the shares of the joint product that are economically imputable to labor as distinguished from the other factors in production. We must now give full weight to the undoubted fact that competition in the labor markets of the world is not free and all-sided, as assumed, but obstructed in various ways, and consider how this modifies our conclusions in reference to the relation between work and pay.

The wages contract is a bargain, and when it fails to secure for labor its competitive share of the product the cause must be sought in the unequal bargaining ability of workmen and their employers. The principal disadvantages under which workmen are placed are: First, that their labor resembles a perishable commodity in that it must be sold each day if they are not to incur loss. This circumstance forces them at times to accept wages that are below their normal earning capacity, but less often than many writers represent. The typical workman, it should be remembered, is not the unemployed seeker after

a job, whose unfortunate plight is so often pictured, but the man already employed, who is looking for a better position. Unemployment often forces workmen to make bad bargains, but even bad bargains may put them in a position to make better terms with their next employers. Only when unemployment continues so long as to break the spirit and lessen the efficiency of a workman is it likely to cause a permanent lowering of his earning capacity. A second disadvantage results from the superior knowledge which employers usually have of the conditions that influence the wages contract. More intelligent, as a rule, and able from their position to take a broader survey of the labor market, employers can often persuade workmen to accept terms much worse than free, all-sided competition would secure for them. A third disadvantage results from the actual or tacit understandings which often restrain employers from competing freely for employees by advancing wages. There is a strong reluctance on the part of employers to "spoil the labor market," and even when they are not combined in employers' associations, as often happens, this serves to make them conservative in reference to wages.

The tendency of the above disadvantages is to render workmen inferior to employers as bargainers and to cause them to accept less than their fair share of the products they help to produce. This, it must be clearly understood, is only a tendency. Any disparity between current rates of wages and the value of the product which labor is able to produce affords an inducement to employers to secure more hands. Ordinarily this motive is strong enough to overcome the reluctance which employers feel to bidding up wages, and ordinarily competition among them is sufficiently active to maintain wages even when the ignorance and inertia of workmen might lead them to accept less than market conditions call for. Only in cases in which the isolated workman, who is temporarily out of

employment, bargains with the unscrupulous employer is full advantage likely to be taken of the former's weakness. As a protection against this situation workmen have devised and perfected labor associations or "trade unions."

**161. Nature of the Labor Movement.**—The labor movement is the term applied to the spontaneous efforts of wage-earners to better their condition through labor organizations. Starting in its modern form in England early in the nineteenth century, it has spread to every country which has introduced the factory system and advanced with increasing momentum until it is one of the most significant features of the present industrial situation.

The purpose of labor organizations, or trade unions, is, in general terms, to advance the interests of the workmen who form them. To accomplish this they choose officers (usually a president, vice-president, secretary, treasurer and members of a standing council or executive committee), accumulate funds, administer mutual insurance or benefit features, bargain with employers in reference to wages, hours and other conditions of employment, organize and carry through strikes and boycotts, collect and disseminate information in reference to labor conditions and agitate for legislation designed to promote the interests of labor. Beginning as local organizations, trade unions have now progressed in the United Kingdom and the United States until they include federations of unions of various kinds and designed to serve various purposes. In all well-organized trades the local branches are combined or "amalgamated" into national organizations. In cities, local unions are usually organized further into "trade councils," or "united labor leagues." Related trades, as, for example, the building trades, are frequently federated also in each locality into organizations like the "United Building Trades Council," designed to assist in-

dividual unions to accomplish their purposes when these are not deemed at variance with the interests of the whole body. Finally, in the United States, a large proportion of the organizations, both local and national, are members of the American Federation of Labor, which stands for the general interests of organized labor.

Exact statistics of the membership of American labor organizations are not available, but it is certainly within the truth to say that over 15 per cent of the 10,000,000 odd men returned by the census of 1900 as employed in trade, transportation and manufacturing and mechanical pursuits were members of unions. Of these nearly 1,000,000 were associated with the American Federation of Labor in 1900 and since that time the Federation has claimed a membership of over 2,000,000. The membership of the British trade unions is relatively larger, being returned as 1,905,000 on December 31, 1900. This is due partly to the fact that labor is there more fully organized and partly to the greater preponderance of wage-earners in the population.

**162. The Development of Trade-Union Law in the United Kingdom.**—The development of trade unions to their present position of power and influence in the United Kingdom and the United States constitutes an interesting history. In the United Kingdom at the beginning of the nineteenth century labor organizations were criminal conspiracies under both common and statute law. The statutes expressly prohibiting them were repealed in 1824-25, but it was not until the early seventies that they acquired an assured legal position. It was long believed that under the Trade Union Acts then passed (1871 and 1876) they were not liable to suits for damages for the tortious acts of their officers or members. This view was declared erroneous by the highest British court in the famous Taff Vale decision rendered in 1901, in consequence of which damages and costs to the extent of nearly £50,000

were assessed against one of the railroad brotherhoods. This decision led to active efforts on the part of trade unionists to have labor organizations expressly exempted by act of Parliament from liability to suits for damages. In the general election of 1906 as many as fifty-seven labor representatives were returned to Parliament and, largely as a result of their agitation, a Trades Disputes Act was passed in the same year which relieved organizations of both employers and employees from liability to suits for damages for acts committed in connection with trade disputes. As the Conspiracy and Protection of Property Act of 1875 had already declared that no act in connection with a trade dispute which was not criminal if committed by an individual should be actionable as a conspiracy because committed by two or more persons acting in combination, trade unions now enjoy a higher degree of freedom from legal restraint in the United Kingdom than in any other country.

**163. The Law in Reference to Labor Organizations in the United States.**—The development of labor organizations in the United States has not been checked to any appreciable extent by legal restrictions. Strikes for the purpose of advancing wages or shortening hours have rarely been held to be illegal, and in many of the States they are expressly authorized by statute. In fact, the attitude of State legislatures has been uniformly favorable to labor organizations, some of them even going to the length of prohibiting employers from discharging employees on the ground that they are members of such bodies. Strikes for other purposes, as, for example, to compel an employer to reinstate a discharged employee or to discharge an employee who is not a member of the union, have sometimes been condemned as conspiracies. The opposition of the courts in such cases has been based not on hostility to labor organizations as such, but on a desire to uphold the rights of persons who are not mem-

bers of them. Thus the Court of Appeals of New York State, in branding as a conspiracy the effort of a union to secure the discharge of a non-union man, used the following language: "Public policy and the interests of society favor the utmost freedom in the citizen to pursue his lawful trade or calling, and if the purpose of an organization or combination of workingmen be to hamper or restrict that freedom, and through contracts or arrangements with employers to coerce other workingmen to become members of the organization and to come under its rules and conditions, under the penalty of loss of their position and of deprivation of employment, then that purpose seems clearly unlawful and militates against the spirit of our Government and the nature of its institutions." This decision is cited because a few years later the same court, looking at the same question more from the point of view of trade unions, decided that a strike for a similar purpose was lawful, on the ground that the object sought was not the injury of the non-union employee, but the preservation of the union.\* This reversal of opinion illustrates fairly well the difficulties which American courts encounter in their efforts to apply the common law of conspiracy to labor cases and explains why they arrive at such diverse conclusions as are shown by the authoritative decisions of the courts of the different States. It would be a great gain if the whole question of the nature of conspiracy in connection with trade disputes could be clearly defined by statute in the United States as it has been in the United Kingdom.

Until quite recently the view that unincorporated labor organizations were not liable to be sued for damages was held in the United States as in the United Kingdom, but the English decision cited has already been quoted with approval by American courts, and several cases are now

\* These decisions are: *Curran vs. Gallen*, 152 N. Y. 33 (1897), and *National Protective Association vs. Cummings*, 170 N. Y. 315 (1902).

on record in which labor organizations as such have been sued and verdicts against them awarded. Whether these verdicts will lead to successful agitation by trade unionists to have the American law altered as the British law has been by the new Trades Disputes Act remains to be seen. It seems very clear to the writer, however, that labor organizations, like other combinations, should be subject to some sort of legal control. If relieved from financial responsibility—and much may be said in favor of this plan—they should be made subject to administrative supervision and regulation as proposed in a later section (Section 172).

**164. Collective Bargaining.**—Intelligent unionists rely chiefly upon collective, as distinguished from individual, bargaining to secure the advances in wages and the shortening of hours for which they are always striving. Recognizing the weakness in bargaining power of the isolated workman, they advocate trade unions as a means of restraining reckless competition for employment and of securing for all concerned standard rates of wages which shall equal approximately what each given grade of labor is worth to employers. Where employers accept the plan, wage scales are agreed upon by conference between their representatives and representatives of the union, to remain in force usually for a year, and the principal task of union officials during the intervals between bargaining periods is to maintain the integrity of their unions, add to their membership if possible and see that agreements in reference to wages and hours are lived up to. In the United States this stage of development has been reached in only a few trades. In most of them employers still insist upon the older method of fixing wages and the unions are forced to carry on a struggle for their very existence.

The objections which employers make to collective bargaining are various. Many of them insist that they must be permitted to manage their businesses in their own way

and that, while they are always ready to treat with their own employees, they will have nothing to do with "walking delegates" or other trade-union officials who try to run their business for them. The trade-union reply to this contention is that wages and hours are as much the business of the employee as of the employer, and if workmen prefer to leave their determination to trained representatives they have as good a right to do so as have employers to hire special agents to treat with the men they employ. Other objections are that the demands of trade-union officials become more and more unreasonable with every concession that is made to them, and that even after a collective bargain has been struck the employer has no guarantee that it will be adhered to by his employees, who may repudiate their own representatives. Unionists reply that while there are all kinds of officials among trade unions, as among other associations, the acceptance by employers of the principle of collective bargaining is a sure way of bringing to the front labor leaders of a conciliatory and pacific disposition. They point to the undoubted fact that in those trades where collective bargaining has been longest practised there is the least dissatisfaction with it on the part of employers. The likelihood that collective bargains, formally entered into, will not be adhered to by employees is, in the opinion of the unionists, too slight to deserve serious consideration. Only in cases in which the system is backed by a weak union, or so recently adopted as not to be understood by the workmen concerned, is this a real danger. Finally, employers object to the standard wage on the ground that it is a device for securing a given rate of pay irrespective of the amount or quality of the work done. They complain that as soon as a standard wage is agreed upon employees begin to devise means of scamping their work, partly to spare themselves effort and partly in the belief that by doing less work themselves they will provide employment for others, who

must, without it, either be idle or work for less than the standard wages. This is, doubtless, the most serious objection to the standard wage, but trade unionists have much to urge on the other side. They insist, first, that the objection can apply only to time wages and that, as a matter of fact, piece wages are often the object of collective bargaining; second, that the standard wage is only a minimum wage and that there is nothing to prevent the employer from declining to hire men whose work is not worth so much to him, nor from paying higher wages to men whose work is worth more; finally, that under the competitive wage system employers tend to drive their men so hard that they become prematurely old, and that employees are, therefore, justified in using the power that association gives them to moderate somewhat the intensity of their daily efforts.

It is very difficult to strike a balance between these opposing arguments. There is, undoubtedly, a widespread notion among workmen that there is a certain amount of work to be done in the world and that unemployment is due to the fact that this work will not go around so long as those employed continue to labor with the same intensity. It is hardly necessary at this stage to insist that this view that men may make work for others by doing less themselves is entirely fallacious. The amount of work that is to be done depends upon the demand there is for goods of different kinds, and this demand comes itself from goods. If in every department of industry the productiveness of labor should be reduced by ten per cent the demand for labor would necessarily decrease in the same proportion. The same conclusion may be inferred from the theory of wages that has been explained. Under freely competitive conditions they are the equivalent of what labor produces, and if workmen deliberately reduce their productiveness their wages must be reduced proportionately. There is no fund other than what workmen pro-

duce out of which wages can or will for any length of time be paid. The make-work argument for curtailing the output of each man's toil is thus without foundation, and the policy can only react to the disadvantage of the whole wage-earning class. On the other hand, there is undoubtedly truth in the assertion that employers often desire workmen to labor with an intensity that wears them out in a few years, and that their best interests and the interests of society demand that they should work with more moderation. When this is the real purpose of trade unions in curtailing the output of each man's labor, the policy is justified, even though it may involve in the long run a proportional lessening of wages. Smaller daily earnings spread out over a greater number of active and efficient working years are better from every point of view than higher wages secured at the cost of health and vitality.

**165. Strikes and Lockouts.**—When employers decline to enter into collective bargains, or when the representatives of a trade union cannot come to terms with representatives of an employer, a strike or lockout is apt to be the result. The former is a general cessation of work on the initiative of the workmen; the latter a similar stoppage brought about by employers. Strikes and lockouts seem at first thought the logical accompaniments of collective bargaining. When a single workman cannot secure the wages or hours he thinks he ought to have he declines to accept employment. Similarly, an employer refuses to employ on terms that are not agreeable to him. Strikes and lockouts appear to be similar phenomena transferred to the larger stage of collective bargaining. There is, however, a vital difference in the two cases. When a workman declines employment or an employer refuses to employ, it is usually with the expectation of making better terms with someone else. This alternative is not usually presented in the case of strikes or lockouts.

The cessation of work which they cause is complete until one side or the other gives in, when work is resumed by substantially the same men under the same employer. Strikes and lockouts thus mean, while they last, idleness and loss of earnings, with all of their demoralizing consequences, for workmen; idle capital, depreciation of plant and loss of business for employers, and curtailed production of goods and resulting loss in want gratification for the community. Even if they are not accompanied, as is so frequently the case, by acts of violence and lawlessness, they are the cause of loss and waste on a scale that makes them a serious obstacle to prosperity. A significant illustration of the costliness of strikes is afforded by the Report of the Commission on the Anthracite Coal Strike of 1902. This estimates that this one strike, which lasted from May until October, involved a loss in receipts to the coal-mining companies of \$46,100,000, of which some \$25,000,000 would have been paid out in wages had work been continued, and a loss in freights to the coal-carrying railroads of \$28,000,000. The inconvenience and actual suffering to which the public was put by the resulting shortage in coal cannot be measured in money, but it was certainly as serious as the other losses combined.

The anthracite-coal strike illustrated also the evils of violence and lawlessness which frequently accompany strikes. In the language of the Commission referred to: "Its history [was] stained with a record of riot and bloodshed, culminating in three murders, unprovoked save by the fact that two of the victims were asserting their right to work, and another, as an officer of the law, was performing his duty, in attempting to preserve the peace. Men who chose to be employed, or who remained at work, were assailed and threatened, and they and their families terrorized and intimidated. In several instances the houses of such workmen were dynamited, or otherwise assaulted, and the lives of unoffending women and children

put in jeopardy." Nor were violence and intimidation the only means resorted to by the strikers and those who sympathized with them to prevent others from remaining at work. Free use was made of the "boycott," which the Commission defines as "a form of coercion by which a combination of many persons seek to work their will upon a single person, or upon a few persons, by compelling others to abstain from social or beneficial business intercourse with such person or persons."

The violence, intimidation and boycotting which accompanied the anthracite strike, differed only in degree from what is to be expected in connection with every serious labor disturbance and constitute a strong argument against the strikes and lockouts which incite them. They are especially apt to occur, for, as the Anthracite Strike Commission pointed out, "there can be no doubt that without threats, intimidation and violence toward those who would otherwise be willing to remain at work, or take the places of those who had ceased to work, the coercion of employers, which a strike always contemplates, would be less potent in compelling acquiescence in its demands." Such acts are, of course, illegal, but in self-governing communities it becomes very difficult to enforce the law when the sympathies of the majority are on the side of those who disregard it. Over and over again in the United States it has proved necessary to call out the militia to prevent riot and bloodshed in connection with strikes which have passed beyond the control of the civil authorities.

166. **Plans for Avoiding Strikes.**—Among the plans for rendering strikes and lockouts unnecessary, three different types may be distinguished: (1) those which rely on agreements between employers and employees to submit differences to boards of arbitration created by themselves; (2) those which rely upon the submission of disputes to State boards of conciliation and arbitration and the voluntary acceptance of the awards of the latter; (3) those

which rely upon compulsory arbitration through State boards or courts.

Trade agreements providing for arbitration when collective bargaining fails of its purpose are already common in Great Britain and to a less extent in the United States. After a protracted strike or lockout both employers and employees usually recognize the desirability of some arrangement that will preclude similar disturbances in the future and out of this feeling some plan for arbitrating differences is very apt to develop. Such plans are highly beneficial so long as they accomplish their purpose, but experience seems to indicate that they can only deal with minor differences between employers and employees. When important issues arise on which the views of the two are diametrically opposed, the compromise which is suggested by a board of arbitration may be acceptable to neither. In such cases both may prefer to fight it out in the old way.

Experience with the failure of trade agreements to supersede strikes and lockouts has led most countries to provide public boards of conciliation and arbitration. These may be purely voluntary bodies dependent upon the invitation of one or both of the parties to the trade dispute for power to take any part in it, or independent to the extent that they may investigate the causes of a dispute and decide as to its merits, although unable to compel the parties concerned to accept the decision or refrain from fighting it out in their own way if they prefer. The first type of board was that first tried in the United States, and it was soon made clear that in a great majority of cases neither party to an industrial dispute cares to submit it to arbitration before it has passed beyond the point where a peaceful settlement can be effected. This conviction has led to the creation in the United Kingdom and in several of the States of the United States of boards of conciliation and arbitration which have power to investi-

gate the causes of industrial disputes on their own initiative. There seems reason to think that much more might be done along this line in the United States. In a great majority of cases the outcome of a labor dispute is determined by the view which the public takes of the points at issue. This is because neither side is strong enough to hold out against the other plus the public. The great difficulty is that without some means of enlightenment the public can become acquainted with the grounds for a labor dispute only after it has gone too far for peaceful settlement. A State board of conciliation and arbitration with power to intervene on the instant that it learns of a labor dispute may at times succeed in effecting a settlement by simply bringing the parties together and suggesting possible bases of agreement, at the same time that it removes misunderstandings and assuages wounded feelings. Failing in this it may, by making public its findings in the case and indicating clearly the settlement which appears to it fair, bring such pressure to bear upon the less conciliatory disputant that a compromise will seem better than a fight and a prolonged strike or lockout will be avoided. Thus, although without power to enforce its award, a State board of conciliation and arbitration may often prevent strikes and lockouts.

**167. Compulsory Arbitration.**—In the United States, notwithstanding the disregard of the public interest so characteristic of both employers and employees during the progress of industrial disputes, there is as yet little demand for any more radical remedy than compulsory investigation. Nevertheless the experiments that are being tried in Australasia with "compulsory arbitration" deserve to be watched with attention. The same forces that have led all countries to put a stop to civil strife and insist that citizens who cannot agree shall bring their troubles into court rather than fight over them, may in time cause the adoption of a similar policy in reference to

industrial strife. If, as many competent witnesses maintain, strikes and lockouts can be entirely superseded by compulsory arbitration without detriment either to employers, employees or the public, the introduction of the latter in all progressive countries is likely to be a question only of time and occasion.

The pioneer in the field of compulsory arbitration was New Zealand, whose first law making strikes and lockouts misdemeanors was passed in 1894. By this Act the country was divided into districts, each of which was provided with a board of conciliation, which was to take the initiative in attempting to adjust differences between employers and employees and in case of failure to refer the dispute with recommendations to the Court of Arbitration also created. The boards of conciliation failed so often to settle disputes referred to them that an amendment was added, in 1901, permitting direct reference to the Court of Arbitration. This court consists of three judges, one a judge of the Supreme Court, and transacts business in very much the same way as any other tribunal. It has power to subpoena witnesses, examine books and, in fact, to sift the cases brought before it to the very bottom. The decisions or awards at which it arrives remain in force for three years unless superseded by subsequent decisions, and failure to comply with them is a serious offense. As a result of its activity nearly every trade in the Colony in which industrial disputes may arise is now carried on under stipulations as regards wages, hours and other conditions of employment laid down in its decisions. The system has thus not only put a stop in large measure to strikes and lockouts, but has made the relations between employers and employees subject to judicial determination in somewhat the same way that they were in England in the sixteenth and seventeenth centuries.

The seeming success of New Zealand's experiment induced New South Wales to adopt the system of compul-

sory arbitration in 1902. Western Australia had adopted it a year earlier, and in 1904 a federal compulsory arbitration law was enacted for the whole Commonwealth of Australia. The system of New South Wales differs from its model in that it provides no local boards of conciliation, but requires the reference of all disputes to the Central Court of Arbitration. It also requires that the awards of the latter shall apply not merely to the disputants, but to the whole trade which they represent. Thus the result which has been achieved somewhat unexpectedly in New Zealand, that is, a comprehensive labor code to govern the relations between employers and employees throughout the whole country, is deliberately aimed at by New South Wales. This code is subject of course to modification through the law-making power, but, with the labor legislation considered in the next chapter, it sets very definite limits to free competition and free contract as regulators of industrial relations. Compulsory arbitration is still in the experimental stage and too novel to be judged either a failure or a success, but it certainly merits the consideration of all countries interested in the solution of the strike problem.

#### 168. Use of the Injunction in Connection with Strikes.

—Experience with the violence and disorder which so frequently accompany strikes has led in the United States to the free use of the judicial process called "the injunction." This was developed by English courts of equity as a means of preventing irreparable or continuing injuries to property for which, in the nature of the case, if the injury were permitted to occur, no adequate damages could be secured. The peculiarity about the process is that when a court issues an injunction, violation of its order becomes in effect contempt of court and exposes the guilty person to such punishment as the court itself may decree. The ordinary protection accorded to criminals, such as trial by jury, the right to be represented by coun-

sel, etc., are set aside, and the offended tribunal becomes itself prosecutor, judge and jury all in one. The inevitable tendency of the system is to deprive trials in injunction cases of that judicial temper which should characterize the relation between a court and an accused person, no matter what his offense.

The applicability of the injunction process to labor disturbances is very clear. Workmen on strike are very apt to commit acts of lawlessness which involve the destruction of property and the interruption of business. Moreover they are usually irresponsible persons in the sense that it would be impossible by means of a civil suit for damages to secure redress after the injury had been inflicted. On these grounds courts readily issue injunctions to restrain workmen from doing illegal acts which involve the destruction of property. Injunctions have even been issued ordering workmen not to strike, on the ground that strikes interrupt business and cause loss, but the best authority gives no countenance to such use.

From being express orders to designated individuals to refrain from doing specified acts, injunctions have developed in the United States into sweeping commands to an indefinite number of persons ordering them not only not to do specified things, but to refrain from lawless acts in general. Thus, in the famous Debs case, growing out of the Pullman strike of 1894, an injunction was issued by a circuit court of the United States to members of the American Railway Union and "all other persons whomsoever," enjoining them from in any way interfering with the business of twenty-three great railway systems. The justification for such comprehensive injunctions is that when a serious strike is in progress it is impossible to know in advance what particular individuals will be moved by the passions of the moment to commit lawless acts or what particular acts will be committed. Since the injunction never, in theory, prohibits

any but unlawful acts it is argued that its issue can inflict no injury on law-abiding citizens.

If the law in reference to what may and what may not be lawfully done in connection with a strike were clear and definite, this justification would be convincing. But unfortunately in the United States, as has already been pointed out, the law is neither clear nor definite. "Violence," "intimidation," "conspiracy," the phrases habitually used to designate the lawless acts likely to be committed by strikers, are differently defined in different jurisdictions. Under these circumstances some courts will issue injunctions to restrain acts which to other courts do not seem to justify resort to this extraordinary remedy; some judges will punish for contempt of court for acts which others would not deem to fall under the phrases which they all agree in using. Even more serious, as a reason for the opposition of American wage-earners to the injunctive process, is the conviction impressed upon them by the language used in judicial decisions, that American courts fail to balance fairly the personal rights at issue in industrial disputes. In endeavoring to protect the property interests of employers they are believed to overlook the personal rights of employees. In jury trials these personal rights receive due, perhaps undue, consideration and for this reason deprivation of the right to trial by jury in contempt cases seems to workmen a special hardship.

To the writer the remedy for this situation appears to be, not the abolition of the injunctive process in connection with labor disputes nor its serious modification, since its efficacy as a means of preserving law and order when other means fail has been abundantly demonstrated, but the education of judges to a more sympathetic appreciation of *all* the rights involved in labor disputes and the clear formulation in statute law of the acts in connection with strikes that are unlawful. This last policy is the one that has been followed in the United Kingdom and it

is a noteworthy fact that while the British courts employ injunctions as freely as do our own, "government by injunction" is not complained of by the British labor press, much less made a political issue by the Labor Party.

**169. The Influence of Trade Unions on Wages.**—The theory of wages that has been explained in these pages is that under conditions of free, all-sided competition workmen will be able to secure wages corresponding closely to the additions their labor makes to the value of the product. We have now to inquire what effect the presence of trade unions has upon the operation of this law. Do they serve merely to equalize conditions between employers and employees so that the competition between them is really freer because fairer, or do they introduce an element of monopoly on the side of labor which enables workmen to secure more than free competition would bring to them? In the opinion of the writer their influence in all but exceptional cases is confined to the first effect. In most trades in the United States there are both union and non-union men seeking employment. Unionists are striving constantly to induce non-unionists to unite with them in the effort to secure better terms from employers, but because of selfishness, short-sightedness, indifference or some other reason, there are always some of the latter who refuse to do so. As a consequence of this situation there is a source of supply on which employers may draw for their labor in case of emergency, which the unions are unable to control. The competition for employment of this unorganized labor sets a limit to the influence which the unions may have upon wages. The very best they can do for their members is to secure for them the full competitive rate. If they try to secure more employers will refuse to employ all of them, defections to the ranks of the non-unionists will occur and the competition for employment of these non-unionists will break down the standard rate. On the other hand, if they follow their own interest intel-

ligently they can secure not only for their own members, but for all the workmen in the trade, the full competitive rate of wages. Representative employers can afford to pay this and will do so if their ability in bargaining is matched on the other side. The services the unions perform in securing this result may be summarized under the following heads: (1) they are organized to resist unfair terms and to cause loss to the employer who attempts to cut wages below the fair competitive rate; (2) they keep workmen informed as to the rates that are actually paid and in this way protect them from making bad bargains through ignorance; (3) they inform themselves in regard to general market conditions and force employers to advance wages when conditions are favorable, more promptly than they would without such coercion.

The above account of the influence of trade unions fails to consider trades in which all or practically all workmen belong to unions. Such trades are, as stated, rare in the United States and even in the United Kingdom, but that makes them no less interesting, since they represent the type whose realization is the goal of trade unionists' efforts. The influence of the unions on wages in such trades depends upon their policy in reference to the admission of new members. This policy is determined in most factory employments by the ease with which the tasks to be performed can be mastered. When, as, for example, in the textile trades, no long apprenticeship is necessary, the unions must admit everyone to membership whom employers will hire, on pain of losing control over the industry. When a union is open in this way to all comers the rate of wages which it can secure for its members cannot exceed the competitive rate for workmen of the given grade of skill. If it did employers could not afford to hire all of the members of the union. The unemployed would become dissatisfied and either leave the union or force it to lower the standard rate until the demand should absorb

them as well as their more fortunate fellows. In either event the standard rate would be brought to correspond closely to the competitive rate, as it was by the competition of non-unionists in the previous case.

**170. Trade Unions are Sometimes Monopolies.**—There are some trades in which the unions control practically the entire labor force and in which conditions permit the use of such control as a means to securing monopoly earnings. These are trades in which a long period of apprenticeship is necessary to the mastery of the tasks to be performed or in which legal obstacles, such as the requirement of a certificate of proficiency as a condition to engaging in the trade, prevent any sudden increase in the number of master-workmen. When a trade union becomes strong enough in a trade of this type to limit the number of apprentices, or to determine the period of apprenticeship or the severity of the examination necessary to entrance to the trade, it may exercise effective control over the supply of competent workmen. By limiting such supply it may secure a virtual monopoly for its members and advance their wages to any point which the demand for their services permits. The management of such a monopoly calls of course for tact and skill because it has to contend with the opposition of other workmen, who would like to learn the trade and are prevented from doing so, with the opposition of employers who object to paying such high wages and with the opposition of the consuming public which objects to paying high prices for the products of the labor monopoly. Nevertheless such monopolies have existed and do exist, and the realization of them is the deliberate purpose of many trade unionists. That such labor monopolies are as much open to public condemnation as any other species of monopoly not controlled in the general interest seems to the author too clear for argument. Unions which make such control of the labor supply in their trades the object of their efforts and

seek to realize it by limiting the number of apprentices, charging exorbitant initiation fees, refusing to work with non-unionists and using every means from strikes to intimidation and violence to prevent the latter from gaining a foothold in the trade, must expect to meet the same criticism that is leveled against the trusts and other would-be monopolies. All of these policies except intimidation and violence are defensible as means to maintaining standards of workmanship and standards of pay proportionate to earnings in other trades. None of them is defensible as a means of preventing ambitious and competent men from mastering the trades concerned and deriving the same benefits from their energy and enterprise as do those already in the trade.

**171. Educational Work of Trade Unions.**—In addition to the purposes that have been considered trade unions have other objects that deserve commendation. Many unions, especially those in skilled trades, act as mutual insurance associations for their members. By providing unemployment, sick, death and other benefits they render a valuable social service. But perhaps the most important aspect of their work is the educational. By bringing their members together to discuss questions of common interest they do a great deal to make them more intelligent and broader in their insight into economic and political problems. The experience which workmen get in managing their unions helps them to appreciate the importance of organization as a condition to success and to perceive the value of the industrial service which their employers render. In the same way the accumulation and administration of the funds which they collect gives them clearer notions in reference to the origin and service of capital. From these facts it results that leading trade unionists are apt to be men of unusual ability, whose views on the labor question are conservative rather than radical and who, in the absence of personal prejudice, command the

respect and esteem of employers almost as much as of their fellow workmen.

The most important book dealing with trade unions in the United Kingdom that has yet appeared bears the significant title, "Industrial Democracy." This makes prominent another service that trade unions render. As miniature democracies they reproduce on a smaller scale the self-governing states on whose success the future so largely depends. Their members learn in them how to give way when they cannot persuade, how to sacrifice smaller for greater ends and in general how to defer without rancor to the opinions and prejudices of others—qualities which are essential to the successful working of democratic institutions. The authors of the work referred to, Mr. and Mrs. Webb, conclude that trade unions are preparing the way for the great co-operative commonwealth or socialistic state which they think is in process of development. Whether they are right in this anticipation or not, there can be no question of the value of membership in a trade union as training for useful citizenship.

Still another service rendered by trade unions is in connection with labor legislation. Through their very position trade unionists are led to recognize the need for labor laws before it is appreciated by the whole community. Again and again in the United Kingdom and the United States their agitation has secured the enactment of beneficent labor regulations. It would be exaggerated praise to ascribe to them all the progress that has been made in this field, or to maintain that they have not at times agitated for bad as well as for good labor laws; at the same time trade unions deserve more credit than any other single agency for what has been accomplished.

**172. The Regulation of Trade Unions.**—Thus far the history of the labor movement in the United States has been the history of the spontaneous efforts of wage-earners

to help themselves through organization. Trade unions have been allowed to grow up and have even been encouraged by special laws protecting their union labels and facilitating their incorporation, but nothing has been done in the direction of subjecting them to legal regulation. If the analysis of the services rendered by trade unions and the excesses of which they may be guilty which precedes is accurate, it is desirable that the state assume a more positive policy towards them. Their monopolistic tendencies should be curbed. Effective measures should be taken to make it to their interest to preserve law and order during industrial disputes. Finally, unions which are both non-monopolistic and law-abiding should be encouraged by the grant of special privileges. It would take too long to outline an adequate program of trade union regulation, but certain features of such a program may be indicated. The only means by which a trade union can maintain a labor monopoly is by restricting its membership through unreasonable apprenticeship and entrance fee and examination rules and through agreements with employers which confine employment to union members. Trade unions might be prohibited from making or enforcing such restrictive rules and brought under the supervision of some officer or commission, charged with the task of seeing the prohibition enforced. By these means close monopolistic unions might be rendered impossible and "closed-shop" agreements would then cease to be socially obnoxious. Or, if there was objection to entering at once upon a full-fledged policy of trade union regulation, the policy might be introduced by confining the protection which the law extends to trade union funds to those whose rules guarantee admission to membership to all respectable and competent workers in the trade. Such unions might be allowed to register under a designated state officer on having their rules approved by him, and might, as registered unions, enjoy privileges not extended to non-regis-

tered bodies. To check the tendency of unions to participate in, or at any rate to condone, acts of lawlessness in connection with trade disputes, it might be provided that persons convicted of such acts of lawlessness should be immediately suspended or expelled from the unions of which they were members, or, under the second plan, from registered unions on pain of forfeiting the privileges attached to registration. In either of these ways the present chaotic condition when there is no method of distinguishing between good and bad unions might be remedied and a situation created much more favorable to the realization of those trade union ends which harmonize with the general interests of the community.

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The labor movement in Great Britain receives consideration in the following works: \* Sydney and Beatrice Webb, *Industrial Democracy and History of Trade Unionism*; de Rousiers, *The Labour Question in Britain*; \* Drage, *The Labour Problem*; \* Report of the Royal Commission on Labour (1894); Howell, *Trade Union Law and Labour Legislation, Labour Movements and Labour Leaders*.

New Zealand's experiment with Compulsory Arbitration is discussed in the Report which Judge Backhouse prepared for New South Wales, entitled, \* Report of the Royal Commission on the Working of Compulsory Arbitration Laws, and in Chap. I., Vol. II., of \* Reeves, *State Experiments in Australia and New Zealand (bibliography)*. See also: \* Clark, *The Labor Movement in Australasia*; and \* Broadhead, *State Regulation of Labour and Labour Disputes in New Zealand (1908)*.

## CHAPTER XIX

### THE LEGAL REGULATION OF LABOR

173. Reasons for the Legal Regulation of Labor.—The *laissez-faire*, or non-interference, policy, which was substituted for the policy of legal restriction in the United Kingdom during the first half of the last century, has been from the first subject to one important exception. It has never been allowed to include fully the relations between employer and employee. Reasons for this exception were suggested in the last chapter, but they must now receive more careful consideration.

Unorganized workers do not bargain on terms of equality with employers. That this is the case when the workers are children will scarcely be questioned by anyone. Employers of such labor stand to it in a relation half paternal and have it in their power to make or mar the young lives that are devoted to their service. To protect children from the rapacity and cruelty of unscrupulous employers labor laws have been found necessary in every civilized country.

It is generally, although not universally, conceded that protective labor laws ought to extend to women as well as to minors. Such extension is defended by those who think that the activity of women should be confined so far as possible to the domestic circle, on the ground that women are unfitted for the rough and tumble of industrial competition and if permitted to work for wages at all, should do so on conditions marked out for them by law. A reason less open to objection is the simple fact that women have not yet learned to organize unions or to protect themselves in other

ways and are therefore the prey of grasping employers when the law fails to protect them.

If the second of the above grounds be accepted as a justification for laws protecting women wage-earners, there seems no reason why such laws should not be extended to men in those trades in which they do not bargain on equal terms with their employers. This view has, as we shall see, found expression in many countries in connection especially with legislation affecting the so-called sweating trades.

Another reason for protective labor laws, than inequality in bargaining power between employers and employees, is the ignorance and carelessness of wage-earners. Ignorance often leads workmen to assume risks and undertake tasks on terms that they would not with full knowledge accept. Once committed, the inertia that is characteristic of all men prevents them from repudiating their bargains. Carelessness is an even more common cause of contracts of employment that are socially undesirable. This is conspicuously the case in dangerous trades. The natural optimism of workmen leads them to feel that whatever the dangers may be, they themselves will escape. The result is that they accept risks, even certainties, of disease and death on terms that compensate neither them, their families nor society at large for the waste of life which such employments entail. It is on this account that special legislation in reference to the conditions of employment in dangerous trades has been found necessary, and on it also are based the laws in reference to employers' liability for injuries to their employees and industrial insurance that are discussed in a later section (Section 181).

In drafting protective labor laws the end to be held constantly in view, it is hardly necessary to add, should be the good of the whole community. This should be conceived in no narrow spirit, but should take full account of the effect of restrictions on slowly evolving society. A

temporary benefit should not be preferred if its result is likely to be the conservation or encouragement of an undesirable type of person, nor should temporary inconvenience or loss be shunned if its long-run result is likely to be advantageous.

**174. The Constitutionality of Labor Laws in the United States.**—The history of labor legislation in the United Kingdom is instructive on many accounts. No country has gone further in its adoption of the *laissez-faire* policy as regards other industrial relations and in none have the successive steps in the development of the comprehensive law which now protects not only children and women, but adult men, been so vigorously opposed or finally passed on the basis of such careful study of actual conditions.

The United States has been much influenced by British legislation in this field and a comparison of the labor laws of the two countries shows that time and again British laws have served as models for the regulations drafted by American legislatures. At two points, however, there have been important differences. In the United States labor relations have been objects, for the most part, for State rather than national legislation, and here this legislation, unlike that of the British Parliament, has always been subject to judicial review. As interpreted by the courts both the State and the Federal constitutions guarantee freedom of contract and immunity from special or class legislation. These guarantees are not absolute. All authorities agree that they may be set aside in order to protect individuals in their lives, their health, their morals or their property in the exercise of the state's "police power." Unless a labor law can be shown to have such protection for its purpose, however, and to be reasonably calculated to achieve its object, it will be declared unconstitutional.

A study of American decisions in cases involving labor

laws is well calculated to confuse even the legal mind. There is scarcely a regulation, from a simple restriction on the age at which children may be employed to the provision that men may work only eight hours a day in specified industries, that has not been declared unconstitutional in certain sections of the country, only to be upheld as a legitimate exercise of the police power in others. The Supreme Court of Pennsylvania characterized an act prohibiting the payment of wages in orders on a company store as "utterly unconstitutional and void" and went on to say that it represented "an insulting attempt to put the laborer under a legislative tutelage, which is not only degrading to his manhood, but subversive of his rights as a citizen of the United States," and yet similar measures have been upheld in several of the other States as proper and beneficent restrictions. The Supreme Court of Illinois declared an eight-hour law applying to women employed in the sweating trades unconstitutional on the ground that it involved class legislation, and yet the courts in Massachusetts, New York and even Pennsylvania have affirmed the right of the legislature to single out women and the sweating trades for restrictions which do not apply generally throughout the community. Finally, the Supreme Court of Colorado declared unconstitutional an eight-hour law applying to men employed in the mining and smelting industries on the ground that if such a law was calculated to protect the health and morals of anyone, it could only be of the very men whose work was restricted, and that the legislature had no right to restrict freedom of contract for the benefit only of the persons whose liberty was thus limited; and yet the Supreme Court of the United States had declared, in upholding the constitutionality of an identical statute previously passed by the State of Utah, that the legislature had the right to protect an individual even "against himself," on the ground that "the state still retains an interest in his welfare no matter how reckless

he may be," and that when "the individual health, safety and welfare are sacrificed or neglected the state must suffer." In all of these cases, except the last, the difference of opinion concerns not the principle involved, but its application, and it requires no great insight to perceive that the really determining consideration was whether the particular measure was deemed wise and beneficent or the reverse. If expedient, a restriction on labor must in the nature of the case be calculated to protect the health or morals, at least of the protected classes. If inexpedient, it becomes thereby an illegitimate exercise of the police power for the simple reason that it is not calculated to secure, in a large sense, the ends for the realization of which that power exists. It follows that the constitutional obstacle to labor legislation in the United States may be expected to give way so soon as public opinion, and particularly judicial opinion, has been educated to the point where it approves of such legislation. As laws that may be passed in this field are not likely to be enforced unless public opinion is behind them, this obstacle ought not to retard unduly the enactment of such restrictions as industrial conditions call for. In fact, up to the present time, there have been few occasions on which labor laws which have been widely demanded by public opinion have been declared unconstitutional.

**175. Child-labor Laws in the United States.**—The development of child-labor laws in the United States has been closely connected with the growth of public schools to serve as substitutes for the factory and workshop. Those States which have given most attention to questions of education, like Massachusetts and New York, have adopted the most rigid child-labor laws. On the other hand, the States whose public educational systems are backward, as are those of the South, have lax child-labor laws. During the last decade a great deal of attention has been given in the United States to the needs of children

and not a year now passes that additions are not made to the protective laws of some of the States. At the time of writing (1908) the child-labor law of New York sets a higher standard than that of any other State. Under this law no child under fourteen may be employed in manufacturing or mercantile pursuits and no child under sixteen may be employed without an "employment certificate." Such certificates are issued by the local boards of health only on the basis of documentary or other conclusive evidence of age and of school attendance or proficiency, and of a physical examination to determine fitness. Children from fourteen to sixteen who obtain such certificates may be employed not more than eight hours a day in factories and not more than nine in mercantile establishments. To facilitate enforcement, the working period for children in factories is rigidly restricted to the hours from 8 A. M. to 5 P. M. From this high standard the child-labor laws of the other States digress to the low standards still found in some of the Southern States. An efficient agency for hastening reform in this field of legislation is the National Child Labor Committee. From its headquarters in New York City this association is engaged in organizing local sentiment to secure better laws and more rigid enforcement in those communities where standards are lowest. Through its efforts and those of the local committees affiliated with it, there is good promise that the law of New York will in no very long time be copied in its essential features throughout the country.

Equally important with restrictions on the labor of children are provisions insuring their attendance at suitable schools up to the age when they are permitted to become bread-winners. As the public schools are improved and extended, little argument will be needed to demonstrate the advantage of having every boy and girl enjoy the training they afford, or equally good training, up to the age at least of sixteen. Merely as a commercial investment, public money

spent on such training is sure to yield rich returns in the superior industrial efficiency of the population. In order to insure that full advantage will be taken of the public schools it is necessary to restrict the employment of children more rigidly than regard merely for their physical development would require. On this ground the prohibition of the employment of children under fourteen should be looked upon as only a beginning. By successive steps the minimum age of employment should be raised at least to sixteen, and school facilities should be increased and improved so that all children up to that age shall be given the best educational advantages.

**176. Laws Regulating the Labor of Women.**—As regards the labor of women, restrictions in the United States are, on the whole, less rigid than in European countries. Thus in Massachusetts and New York the maximum working periods for women employed in factories are fifty-eight and sixty hours a week, respectively, as compared with fifty-five in textile and sixty in non-textile factories in the United Kingdom. Several of the States, moreover, impose no restrictions whatever on the employment of women, and in at least one (Illinois) such special restrictions have been declared unconstitutional. The opposition to such regulations, so far as it is disinterested, is based on the fear that they may serve to undermine the spirit of independence of the protected persons. Experience seems to indicate that they have, in fact, a directly contrary effect. By preventing employers from prescribing working hours that would be detrimental to the health of their women employees, they permit the latter to retain that state of mind and body that is indispensable to any real independence of thought or action. So long as the restrictions apply generally to all women and are neither extreme nor unreasonable, there is nothing in them to lessen the self-respect of the protected classes. They are accepted like other conditions over which the persons affected have no

control, without lessening in the least their determination in dealing with those other conditions which they may hope to modify. The reasons for regulating the employment of women apply with special force to those who are married. In the United Kingdom the law prohibits the employment of such women within four weeks after childbirth, and all medical authorities agree as to the importance of such a restriction. Many thoughtful persons think that the law should go even further and either prohibit altogether the employment of married women in shops or factories or limit it to married women without infant children. Desirable as such a limitation would be in most cases, the impossibility of enforcement is a decisive objection to it. It seems wiser to rely upon the education of married women themselves and their husbands, and upon the influence of public opinion, to restrict the employment of married women to cases in which it involves no sacrifice of the interests of children.

**177. Would a Universal Legal Eight-hour Day be Desirable?**—Restrictions in reference to hours of employment, imposed in some instances by law and in some by the rules of trade unions, have advanced so far in the United States that there is now widespread agitation for a legal eight-hour day, to apply to all employees in all trades. This period of employment has already become general for Government employees. It is common in the building and other skilled trades. In other employments, nine, ten and even twelve-hour periods are still the rule, but many people believe that the time is ripe for the change to eight hours.

Much as may be said in support of a further shortening of the working day in many employments, the proposal that a uniform period be made to apply to all alike seems unsupported either by reason or experience. Different occupations make different demands on the strength and nervous energy of workmen, and a workday that would be moderate for one kind of employment would be excessive.

for another. These differences have been considered in the development of protective labor laws in the distinctions made in all countries between manufacturing, mercantile and other pursuits. To disregard them by establishing a uniform eight-hour day would be to take a backward step. It is doubtless true, as urged by advocates of the eight-hour day, that its adoption for certain trades would involve no permanent lessening of the productivity of a day's labor. The shorter work period would insure more active and intense exertion on the part of workers than they can maintain when employed for nine or ten hours. On the other hand, it is equally certain that in other trades reducing hours to eight a day would reduce the output. The effect of this in the long run would normally be to reduce wages, and it is highly probable that such a reduction would in many cases inflict more injury than the shorter workday could compensate. It would seem better for each country to proceed piecemeal toward the realization of shorter working hours for all employees as in the past, rather than to adopt all at once a regulation which could not but be disadvantageous to many and might prove unsatisfactory to all.

The above objections to an eight-hour law applying to all occupations do not involve any criticism of the policy of restricting by law the hours of men as well as of women. Skilled workmen, especially when organized in trade unions, do not usually require such protection. To unskilled workmen, however, it may be the indispensable means to the attainment of a higher standard of living and of industrial efficiency. The argument that it serves to undermine the spirit of independence has already been examined and rejected. Those who advance it fail to consider that deadening and monotonous toil too long continued is more inimical to the spirit of independence than any amount of regulation. They also ignore the fact that restrictive labor laws are usually passed out of deference to

the wishes of those they are designed to protect, and that they are often the only means by which a determined majority can prevent an ignorant or selfish minority from blocking progress. Here, as elsewhere, it is often desirable for the state to interfere to establish the plane of competition, and experience affords no ground for the view that self-reliance and the spirit of self-help are lessened by an exercise of legislative authority to advance this plane to ever higher levels.

**178. The Sweating Evil.**—Industrial progress, like progress in other fields, has its dark as well as its bright side. The dark side in connection with conditions of employment is presented in the so-called “sweating trades.” These are carried on in large cities everywhere and have even spread to country districts. A description of the system as it prevails in connection with the clothing industry will reveal its salient features. As this industry is now carried on, it is divided into various stages. Cutting the cloth from which garments are to be made is performed under the direct superintendence of the manufacturer. The pieces are then tied in bundles and turned over to contractors who agree to have them made up at so much a garment. The latter convey them to their shops, the “sweat-shops” proper, and either have the work done there under their own supervision by poorly paid and over-worked men, women and children, or else subcontract them to men and women who make them up in their own homes.

The evils that result from the sweating system are that wages are low and unequal for the same kinds of work, employment is irregular, hours are long, the premises on which the work is done are insanitary and, finally, there is little chance for advancement in the trade for the rank and file of workers. The system owes its existence to a number of causes. In the first place, the work to be done is of the simplest character, and any person of ordinary intelligence can learn to do it, after a fashion, after a few hours’ in-

struction. This throws it open to the competition of men, women and children of all classes and conditions. Home work is taken by the well-to-do wives of laborers as a means of securing pin-money, and also by poor widows struggling to keep their children from starvation. Men too old for any other kind of work sew side by side with young children who ought to be in school. The consequence of this competition is that the labor market is always over-stocked and wages correspondingly depressed. In the cities of the United States competition for employment in the sweating trades is made especially severe by the steady influx of immigrants, many of whom find this species of work the easiest to take up, and do not learn, until after they have been in the country some time, how much worse off they are than American workmen in other trades. Another cause is the ignorance and comparative isolation of the workers. This applies especially to those who work at home. They go to the contractor, or "sweater," singly or in pairs, and have to rely largely on his fairness in determining what they ought to get for their work. The success of the sweater depends upon the shrewdness and relentlessness with which he takes advantage of his position. He makes a special bargain with each outworker and gets the best terms he can, irrespective of what he is paying others for the same work. The different piece prices to which this may give rise was illustrated in Philadelphia during the Spanish-American War, when standard army trousers, all of which had to be passed upon by the same Government inspectors, were being made up in different shops for from thirty-five to seventy-five cents a garment. Still a third cause of the system is the irregularity of the demand for the goods produced. At certain seasons work is active and contractors who have taken "hurry-up orders" drive their employees to the extreme limit of human endurance. At other times work is scarce and the competition for it is so severe that earnings are reduced

to a starvation level. This irregularity is perhaps the worst aspect of the sweating system, since it is destructive alike of health and character.

**179. Remedies for the Sweating System.**—It is easier to perceive the causes of the sweating system than to devise remedies, and yet much has already been done to improve conditions. In American cities the plan is being tried of requiring premises in which the sweating trades are carried on to be licensed for the purpose, and of making the issue and continuance of licenses contingent on compliance with sanitary and labor regulations. The factory inspectors are required to inspect the shops and homes in which such work is performed and to hold contractors responsible for work done in unlicensed premises. In the United Kingdom a further step has been taken by making the manufacturers for whom the work is being done responsible for the sanitary condition of the premises in which it is performed, after notification by the inspector that these premises are unsatisfactory. Either system requires for its successful operation a larger force of factory inspectors than has usually been provided. Moreover, even if rigidly enforced, the measures thus far taken in the United Kingdom and the United States would remedy only one phase of the sweating evil, that is, the insanitary conditions under which the work is carried on. The long hours and low wages, which are its worst features, remain unaffected.

The most drastic remedy yet applied to the sweating evil was adopted by the state of Victoria, Australia, in 1896, through the creation of wage boards consisting of from four to six members to be chosen one-half by employers and one-half by employees and empowered to fix not only wages, but hours of labor and the proportion of apprentices to be employed in the designated industries. The decisions arrived at by these boards are binding on the whole trade, and can be reversed only by the Supreme Court. Under this system, applying now to more than

forty trades, minimum wages both for time and piece work have been established and maximum hours of employment prescribed. The available evidence indicates that conditions in the sweating trades have been materially improved, and that, incidentally, home work in certain trades has been rendered unprofitable. Of course, one effect of the change has been to increase the number of persons in the colony who are dependent on public charity, but the exclusion of these incapables from the ranks of the employed is believed to have been good both for them and for the more efficient. In practice, New Zealand's system of compulsory arbitration has secured for many of the sweating trades wages and hours determined by judicial decree, and in the opinion of many persons the results of this method are even superior to those of Victoria's wage boards. The essential characteristics of both are that considerations of social expediency and general good are substituted for blind competition as the regulators of conditions of employment, and standards are fixed which insure to those who can obtain employment living wages and reasonable hours. The inefficient, who are "unemployable" under the new conditions, become objects for public charity, but experience seems to prove that the whole cost of their maintenance is less of a tax on the social organism than was their competition when they were allowed partly to maintain themselves.

Both New Zealand's and Victoria's plans for solving the sweat-shop problem are dismissed as too radical by most American students of the evil. The further remedies that are advocated for the system as it exists in the United States are additional restrictions on immigration, more rigid sanitary regulations and a provision that all garments made in tenement houses shall bear a "tenement-made" label as a warning to consumers that they are buying sweaters' products. There is little question but that these changes in the law, coupled with provisions for more

rigid enforcement, would cause improvement, but it is doubtful whether the evil can be corrected by such simple means. It is a significant fact that the most careful study of the sweating evil in the United Kingdom that has yet been made concludes with an argument in favor of the Australian method of dealing with it. A bill embodying such a plan is now (1908) before Parliament. This remedy has at least the merit of striking directly at the root of the evil. If other plans fail it should be adopted.

**180. The Regulation of Dangerous Trades.**—Besides the sweating trades there are others which require special regulation on the ground that they are dangerous to life or health. All manufacturing industries which use power machinery are dangerous to a certain extent, and experience has taught the wisdom of requiring that revolving machinery be fenced and that the cleaning of machines while in motion be either prohibited altogether or limited to adult workmen. In addition to these general regulations, which are now included in the factory laws of all progressive countries, experience has shown the need of special restrictions on particular trades. Occupations connected with the cleaning of textile fabrics and the polishing of metals are peculiarly unhealthful, as are also those concerned with the manufacture of white lead and of most chemicals. In the transporting and mining industries the rate of mortality is very great and can only be kept down by legal interference, since even such simple appliances as safety lamps and automatic couplers are introduced but slowly by employers unless their use is made obligatory.

The United Kingdom has gone much further than any of the States of the United States toward the adequate regulation of dangerous trades. The present system of that country is to vest large discretionary powers in reference to the control of dangerous trades in the Home Secretary. Medical practitioners are required to report illness which

they believe to be due to unhealthful conditions of employment to the factory inspectors, and the latter, so soon as they become persuaded that a trade is dangerous and in need of special regulation, are required to bring the matter to the attention of the Home Secretary. That officer, if he deems it necessary, drafts, with the assistance of experts, rules calculated to meet the needs of the situation and sends copies of them to the employers who will be affected, with the request that they file their objections to them within twenty-one days. These are carefully considered, and revised rules are then issued which have the force of law unless vetoed by either House of Parliament. This system has the great merit of adapting itself readily to changing conditions, and might with advantage be copied in its important features in the United States.

**181. Employers' Liability for Industrial Accidents.—** No matter how rigid the regulations in reference to dangerous trades, accidents to employees resulting in temporary or permanent disability, or even death, are certain to occur. Under the common law of negligence as interpreted by English and American courts, employers are liable for damages when accidents are due to their personal fault. When, however, an accident is due to unpreventable causes or to the carelessness of the employee himself or one of his fellow employees, no liability attaches to the employer. In such cases, unless damages can be collected from the fellow employee responsible, the entire loss must be borne by the unfortunate victim of the accident and his family. The impolicy and injustice of this arrangement have long been appreciated, and have led to the modification of the law of employers' liability in several different directions.

In the United States all that has thus far been done has been to extend the employer's liability to cases in which accidents are due to the carelessness of his representatives. Thus by the Employers' Liability Act adopted by New

York in 1902, the employer is responsible for any accident to an employee, "himself in the exercise of due care and diligence at the time," due to any defect in the condition of the ways, works or machinery used in the business traceable to the negligence of employees responsible for the care of such ways, works or machinery, or to the negligence of an authorized superintendent of the employer. For accidents due to the negligence of employees of the same or of an inferior grade to the victim, employers would not, under this act, be liable.

A similar law to that of New York was adopted by the United Kingdom as early as 1880, but was found insufficient as a remedy. At the instance of Mr. Joseph Chamberlain, an entirely new policy, known as that of "workmen's compensation," was introduced through an act passed in 1897. By this measure, which was amended in 1906 so as to apply to practically all of the industries of the country, employers are required to compensate, according to a fixed scale, workmen or their families for accidents sustained in connection with their employments and resulting in at least two weeks' disability, unless such accident is due to the "serious and wilful misconduct of the workman himself" and does not result in his death. The amount of compensation is limited to £1 a week in case of temporary disability and £300 in case of complete disability or death, and simple machinery is provided for determining, without recourse to a court, what part of these sums should be paid in any given case. In defending this law, Mr. Chamberlain insisted that it is not true, as economists are fond of assuming, that wages in dangerous trades are enough higher than those in other trades to compensate workmen for the risks they take. Even if it were true, it might be added, the difference would not compensate the particular workman who was injured unless some plan of mutual insurance had been adopted by which the extra compensation was placed in a

common purse for the benefit of those upon whom accidents might fall. The only way to equalize conditions between safe and dangerous trades, Mr. Chamberlain urged, was to throw the burden for compensation for accidents upon the employer, who would, in turn, throw it upon the consumer by charging somewhat higher prices for his goods. "When you enter upon a business," he said to employers, "you must consider this compensation as much a trade charge as is now the provision which you are called upon to make for the repair of machinery. You at present have to put aside every year a certain sum for the repair of the inert machinery, which is a factor in your business. Now, the human element in the business has to be considered, and in case of accident what reparation you can make must be made as a charge upon the business." The active opposition which the act at first encountered appears to have given place to general acceptance of it on the grounds given by its author. Employers have been able to transfer to industrial insurance companies their liability for compensation under it, and thus accident insurance has come in the United Kingdom to be as normal an item among the expenses of production as was fire insurance before the Workmen's Compensation Act was passed.

Schemes of industrial insurance similar to the Workmen's Compensation Act are now well-nigh universal in European countries. Perhaps the most elaborate is the compulsory insurance system of Germany, under which employers, employees and the government all contribute to the insurance fund out of which compensation is paid to workmen in case of accident or illness. The principal objection that is urged against this plan is that the cost of its administration is out of proportion to the benefits which result from it, but this may easily be exaggerated through failure to appreciate the saving in the cost of administering public and private charities that may properly be

credited to such a comprehensive system of industrial insurance.

In the field of industrial insurance European precedents have thus far had little weight in the United States, where there is still a strong prejudice in favor of self-dependence in all such matters. It is argued that each individual should accept the risks of his special occupation or insure himself against them through private industrial insurance companies, and that only in this way can the spirit of self-help and self-reliance, upon which our advancing civilization so largely depends, be kept alive. The obvious reply to this reasoning is that in practice workmen underestimate the risks to which they are exposed and fail to insure themselves against them. The consequence is that when accidents befall them their families are only too apt to be left without adequate provision and to become dependents upon public or private charity. In the opinion of the author a plan by which compensation for industrial accidents is made one of the conditions of the labor contract tends on the whole to promote self-reliance and independence among the working classes rather than otherwise, because it reduces the amount of enforced dependency. If this view is correct the United States should lose no time in introducing some method for the compulsory indemnification of the victims of industrial accidents.

**182. Conclusion.**—The subject of the legal regulation of labor is one of great complexity. Up to the present time *a priori* objections to such regulations have delayed their introduction, and only gradually, as experience has demonstrated their usefulness, have they been extended to situations which seem to require them. In the United States the notion that the legislative power should not be used to regulate hours and conditions of employment has been abandoned by most thoughtful persons, but the prejudice against any interference with wages, like that practised in New Zealand and Australia, remains nearly as strong as

ever. There is, of course, good ground for this distinction. Hours and other conditions of employment affect directly the health and vigor of the working classes; wages only indirectly. Moreover, workmen are less mindful of their own interest in connection with hours and sanitary arrangements than in connection with wages. Making all allowance for these considerations, many thoughtful persons still believe that, under certain circumstances, notably those found in connection with the sweating system, the regulation of wages must also be undertaken by the government if serious evils are to be corrected. It is sometimes argued that the law cannot fix the rate of wages, but this is contrary both to reason and experience. The law cannot fix both wages and the number of persons who shall be employed at those wages, but it can declare that no one shall be employed in given trades unless paid certain minimum wages, and enforce its decree. The result may be an addition to the number of dependents, who are "unemployable" at the wages fixed because too inefficient to earn them, but it may be better and cheaper for society to support such persons in some other way than to permit their competition to hold the wages of great sections of the population down to a starvation level. In order to mark off the dependent from other classes the state may find it necessary itself to fix a standard by which the ability of the individual for independent self-support may be determined. Without desiring to advocate the establishment by law of standard or minimum rates of wages for the sweating trades, the author wishes to insist that there would be nothing in this policy inconsistent with the theory of wages that has been explained in these pages, and that it merits the same unprejudiced consideration as is now accorded by intelligent people to proposals for restricting the employment of children or women, or for requiring the use of safety appliances in connection with dangerous trades.

In the United States a serious obstacle to the progress of labor legislation has been the inability of State legislatures to agree upon uniform laws. Massachusetts has held an honorable place as a leader in factory legislation, but of late years proposals for a further restriction of hours have been met there with the objection that the cotton mills of the State were already carrying on a losing battle against the cotton mills of the South, which have been free from all but the mildest labor restrictions. Exaggerated as this objection often is, it points to the need of uniform labor laws, at least for neighboring States, and suggests the desirability of national labor legislation. Massachusetts, the State which from its position of leadership has most keenly felt the absence of uniformity, adopted, in 1902, a concurrent resolution favoring an amendment to the United States Constitution which should empower Congress to enact uniform labor laws for the whole country. Another movement in the same direction was the creation, in 1883, of the Association of Officials of Bureaus of Labor of America, which has worked earnestly to secure uniformity in the factory regulations of the different States. The progress towards uniformity that has been made encourages the hope that its absence may be less of a bar to improved labor regulations in the future than it has been in the past.

#### REFERENCES FOR COLLATERAL READING

The literature bearing on labor regulations is of a somewhat technical character. \**Stimson*, Handbook to the Labor Laws, is the standard work for the United States. More exhaustive is the Report of the United States Bureau of Labor on Labor Laws in the United States, which is brought down to date by the Bulletins of Labor of the same Bureau. Volumes V. and XVI. of the Report of the United States Industrial Commission contain digests of the labor laws of the United States and of foreign countries. Discussions of the history and effects of labor legislation will be found in *North*, Factory Legislation in New England (against) and *Whittelsey*, Massachusetts Labor Legislation (for). A good statement of the argu-

ments for child-labor laws is given in *\* Murphy, The Case Against Child Labor and The South and Her Children*. The Handbook on Child Labor Laws, published each year by the National Consumers' League, gives the latest statutes. Other references are given in *\* Marot, A Handbook of Labor Literature*.

The history of labor legislation in Great Britain is treated in *von Plener, English Factory Legislation* (1876), and *\* Hutchins and Garrison, A History of Factory Legislation* (1903). The laws now in force are given in *Abraham and Burrows, The Law Relating to Factories and Workshops* (1908). The best books dealing with special topics are: *\* Mrs. Webb, The Case for the Factory Acts*; *\* Black, Sweated Industry*; *\* Willoughby, Workingmen's Insurance*.

## CHAPTER XX

### LEGAL AND NATURAL MONOPOLIES

183. Importance of the Monopoly Problem.—As explained in Chapter IX. the essence of monopoly is such control over the supply of an economic good as enables the monopolist to regulate its price. In Chapter XVIII. we considered cases of such control exercised by trade unions and designed to enhance wages or the price of labor. Much more common and also more detrimental to general well-being are monopolies which consist in control over the supplies of commodities. Such monopolies have it in their power in greater or less degree to compel the public to pay regularly and continuously for the commodities they control higher prices than are needed to cover the expenses of their production, including a fair wages of management. This power is not unlike the power to tax which is exercised by the state itself. By its means the favored few who control monopolistic enterprises derive monopoly profits at the expense of the many. The magnitude of these profits, which under a system of free, all-sided competition would be diffused throughout the community in the form of cheaper commodities, is one circumstance that lends an interest to the monopoly problem. Another and equally important circumstance is the manifest injustice involved in permitting a few persons to enjoy incomes from which the many are debarred. For these and other reasons the monopoly problem is one of the most important practical questions with which economics has to deal. In the following sections the principal types of monopolies that are found in the United States, the grounds on which they

rest and the efforts that have been made to regulate and control them, are considered. Legal monopolies, as the simplest type, first merit attention.

**184. Public Legal Monopolies.**—Legal monopolies, as already stated, may be either public or private. Public legal monopolies have been established for a variety of reasons. In Norway, moral considerations have led the Government to convert the liquor business into a public legal monopoly. The tobacco monopoly of France and the salt monopoly of Saxony are conducted for revenue. In Prussia the state has taken charge of the railway business, partly for revenue, but chiefly to insure reasonable and uniform rates to all shippers and ready control of transportation facilities in time of war or other public emergency. The chief public legal monopoly in the United States, the post-office, was undertaken with a view to facilitating and cheapening communication among different sections of the country, and these objects have always been made more prominent than considerations of revenue. In fact it may be doubted whether at the present time desire for revenue would be accepted in any Western country having a representative government as in itself an adequate reason for making a business a public legal monopoly. In the United States, especially, public opinion is decidedly opposed to public monopolies managed merely for profit. The most common reasons for advocating and defending public legal monopolies are that the businesses under consideration require special regulation for the protection of public morals, as in the case of the liquor business, or that they are natural monopolies in which the public has a vital interest and that that interest will be better cared for through public ownership and operation than through private ownership, even under public control. That these last reasons fully justify the post-office monopoly, with its ever ready response to public needs and constant subordination of considerations of mere profit to

considerations of service, is universally conceded. The case is less clear for the other monopolistic businesses discussed in later sections, which, though public in some countries, are still for the most part private in the United States.

**185. The Patent System of the United States.**—Private legal monopolies are monopolies created by patents, copyrights or exclusive franchises granted by the appropriate public authority. In the United States power to grant patents and copyrights is vested by the Federal Constitution in Congress, and this power has been exercised since early in the nineteenth century. Under the patent law now in force “any person, native or foreign, who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used in this country, and not patented or described in any publication in this or any foreign country, before his invention or discovery thereof, and not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned, may upon payment of the fees required by law and other due proceedings had, obtain a patent therefor.” The Patent Office is a branch of the Department of the Interior. It employs over a hundred trained examiners, whose business it is to study the specifications submitted and satisfy themselves that the invention or discovery for which a patent is sought falls within the requirements of the law. A patent gives to the inventor the sole right to manufacture and sell his invention for seventeen years, unless it has been previously patented abroad, when the United States patent expires with that granted by the foreign country. In the United Kingdom the life of a patent is shorter, being only fourteen years, but under certain conditions it may be renewed for seven or even fourteen years longer, so the practical difference between the two countries is not great.

Three different arguments are advanced in favor of granting patents. The most familiar argument is that they foster invention and discovery by insuring to the inventor adequate reward for his trouble. Another common argument is that they induce inventors to make their discoveries public. The third argument, which applies to the more complex inventions of recent years, is that but for the protection which a patent affords, capitalists would be unwilling to risk their means in the development of new processes. There is doubtless reason in each one of these contentions and together they are usually accepted as sufficient justification for some kind of a patent policy. The present patent system of the United States is, however, criticized on several grounds: (1) Some people deny that men who have a genius for invention and discovery require any special inducement to follow their natural bent. (2) Others point out that in practice those who reap the rewards of monopoly under our patent laws are more often business men and corporations, who acquire control of patents and turn them to commercial account, than the inventors themselves. (3) It is urged that important inventions and discoveries are the joint products of many minds and that to reward unduly the lucky individuals who get first to the patent office is to disregard the services of other investigators. (4) It is maintained that many of the patents taken out are suppressed by those who have vested interests to protect and that in consequence, instead of promoting progress, our patent law actually retards it. (5) The fact that the present rapid progress in methods of production renders most processes and methods obsolete before they have been in use seventeen years is emphasized, and it is asserted that for this reason improved processes are usually of little value to the public when the patents on them expire.

In answer to the first of these objections it may be asserted that while genius needs, perhaps, no incentive to

follow its natural bent, talent does, and that the great majority of inventions and discoveries have been made not as strokes of genius, but by laborious study and experiment. Under these circumstances it can hardly be granted that inventors and discoverers are not influenced like other people by the expectation of financial return. To the second point it may be answered that in many cases making an invention commercially successful is as important a service as making the invention. For example, it would be difficult to decide in connection with the invention of the steam engine whether Watt or his business partner, Boulton, deserved the more credit for the ultimate result. But for Boulton, Watt would almost certainly have died a broken-hearted "visionary" and his experiments with steam be remembered only by antiquarians. Nor is it true that any large proportion of inventors fail to get some return for their inventions when the latter prove to be commercially successful. They are apt to be men who are carried away by one success and who squander all they receive from one invention in the vain effort to impress upon the public the value of others. A patent law which would make all successful inventors die rich would need to modify human nature. The third criticism overlooks the real justification of a patent policy. No scheme could be devised that would reward inventors in proportion to their merits. All that can be done is to offer them a special stimulus, and this the present law does by giving the reward to him whose application for a patent is first received.

The fourth and fifth objections point to two definite weaknesses in the present patent law of the United States: it permits the suppression of inventions, and it grants a monopoly for the same rather long period of years to all inventors, irrespective of the character of their inventions or the use to which they are put. It is easier to recognize these defects than to suggest satisfactory remedies.

To cure the first, it has been proposed that the law require proof from the patentee that some use, which benefits the public, is being made of his patent within three or four years of the time when it is taken out, and that in the absence of such proof the patent be revoked. This plan has been tried in other countries and found to work satisfactorily. Various remedies have been suggested for the second defect. The Government might reserve the right to buy up a patent at an appraised valuation, whenever this course seemed expedient. A decisive objection to this plan is that under our form of government there is little reason to think that such a right would ever be exercised. Another plan is to compel those owning patents to share them with others on payment of a fair rental or royalty. The difficulty here would be to determine what a "fair" return might be. A third plan is to impose a progressive tax on patents, increasing year by year, with the provision that failure to pay the tax would work forfeiture of the patent right. Finally, it has been proposed to reduce the term for which patents shall be granted from seventeen to ten years and to follow the United Kingdom in permitting renewals for five or ten years in cases where the public interest seems to require it. The last plan has the advantage of simplicity. It also meets more fully than any other single change proposed the objections urged against the present system, without itself being open to serious objection.

Patents in the United States are the direct and indirect cause of large monopoly profits. Some of the more successful, such as the Bell telephone patent, have earned large fortunes for hundreds of different people and helped to build up monopolies which, when not controlled as regards their methods of doing business and rates of charge, have continued, long after the patents have expired, to yield large monopoly returns. Moreover patents have become so numerous of late years, being now issued at the rate of

36,000 a year (1907), that they figure in nearly every branch of manufacturing enterprise. Nearly every one of the trusts organized in 1898 and 1899 controlled a larger or smaller number of patents and in the case of some of them, such as the bicycle trust, the fact that all important patents were owned by the combination was urged as one of the surest grounds for its expected success. Important as are patents as a source of monopoly income, however, it would be easy to exaggerate the extent to which they lead to the suppression of competition. A large number of them are for the protection of rival processes and serve to stimulate rather than to diminish competition among those employing the different methods. Only when a patented process is distinctly superior to all other known processes for effecting the same result does it give rise to an exclusive monopoly, and even such monopoly is subject, of course, to the limitations which have already been discussed.

Besides granting patents, the United States Patent Office registers labels and trade-marks on receipt of a modest fee. The latter have been of importance chiefly in giving a solid basis to what is known as the "good will" of a business. A manufacturer who acquires a reputation because of the quality of his products may adopt a trade-mark to distinguish them from others. In the organization of the trusts, brands and trade-marks have been frequently recognized as among the valuable assets of the businesses to be absorbed.

**186. The System of Copyright.**—The basis of copyright, "the exclusive right to multiply for sale copies of works of literature or art," is similar to that of patent right, and the reasons for it are even more obvious. The period for a copyright in the United States is now twenty-eight years, but the author or his direct heirs have the privilege of securing a renewal for fourteen years more, so that the total period is forty-two years as in the United

Kingdom. In comparison with the laws of other countries these provisions are none too liberal. In Mexico copyright is perpetual. In Spain it continues eighty years after an author's death, in France fifty years and in Germany thirty years.

Although the copyright law grants a monopoly for a longer period than the patent law, little if any fault is found with it because the monopoly is of such a limited character. Even with this protection, authors and artists as a class are far from enjoying excessive incomes and those who succeed in obtaining large monopoly profits from their products serve as a needed incentive to the great army who find it difficult to make even a living from their work. Instead of being criticized for being too liberal in its provisions, the American copyright law is attacked because it does not extend the same protection within the United States to the works of foreign authors and artists which the latter enjoy at home. A discussion of this objection would carry us too far from the subject of monopolies and monopoly profits, but it certainly seems anomalous for a country which protects nearly all industries which require it, to allow its authors and artists to be subjected to the competition of pirated editions and copies of the works of foreigners. The provisions of the Act of 1891, granting to foreigners on reciprocal terms the privilege of securing copyrights in the United States by having their books printed simultaneously in this country, remedies the evil only for the works of authors of established reputation.

**187. Natural Monopolies in the United States.**—Of all forms of monopolies those which are most widespread in the United States are what we have styled natural monopolies. Under this head are included monopolies of situation, such as the anthracite coal combination and monopolies of organization, such as municipal gas, electric lighting and street-railway companies, telegraph, tele-

phone, express and railway companies, and, in fact, all transportation industries except those which use the free public streets or free public waterways and enjoy no advantage over other patrons of the same facilities. The importance of these businesses scarcely needs to be emphasized. The anthracite coal strike of 1902 demonstrated conclusively the country's dependence upon that commodity. Its dependence upon monopolies of organization is even more pronounced. As industry is now organized the services rendered by transportation companies are indispensable to the business success of nine-tenths of the entrepreneurs in every community. Water, gas or electric light and street-railway transportation have become necessities of life to dwellers in cities. Quite as important is steam-railroad transportation. Without it farmers and manufacturers would be deprived in large measure of the markets for their goods and compelled to turn their attention to production for the gratification of their own wants or to supply the restricted local markets that could be reached through other means of transportation. The conviction that the transportation businesses enumerated are not adequately regulated by competition is only gradually taking shape in the public consciousness. For this reason a good deal of attention is given in the following sections to the explanation of the circumstances which make these businesses natural monopolies and therefore proper objects of legal regulation and control. Natural monopolies of situation and municipal monopolies of organization are discussed in this chapter; in the next the most important national monopolies of organization receive consideration.

**188. Natural Monopolies of Situation: The Anthracite Coal Combination.**—The only natural monopoly of situation that has thus far assumed national importance in the United States is the so-called "anthracite trust." The anthracite coal combination has been rendered possible by

the limited area within which anthracite coal is found. The whole field is less than 500 square miles in extent and fully nine-tenths of the product comes from the five Pennsylvania counties located near the headwaters of the Schuylkill and Lehigh rivers. Into this limited territory nine railroads have extended their lines and now serve, with the canals which they control, as the sole means of transporting the product from the mines to the country's centers of population. As long ago as 1871 the railroads, under the leadership of the Reading, adopted the policy of buying up coal lands with a view to securing an assured share of the coal traffic. It has taken them many years to acquire control of the industry and to agree among themselves as to the manner in which it should be conducted. First, it was necessary for them to enter into traffic agreements among themselves that would prevent independents from securing discriminating rates on the basis of which they might undersell the railroad coal companies. This being accomplished, the next step was to raise freight rates to a point that would make the coal business relatively unprofitable to independent producers and induce them to sell out to the railroads on moderate terms. The same rates were charged railroad and independent coal companies and this made it difficult for the latter to prove that they were being treated unfairly, although it was obvious that from the point of view of the railroads it was immaterial that their collieries were making small profits so long as they themselves were prospering. As a result of these policies the coal holdings of the railroads were year by year extended at the same time that their conflicting interests were gradually, through consolidations and community of interests arrangements, brought into greater harmony. When the anthracite miners' strike of 1900 was declared (September 17), conditions were ripe for a few final moves in the game of combination. In December of that year J. P. Morgan

& Co. negotiated, for the Erie Railroad, the purchase of the Pennsylvania Coal Company, one of the largest and most successful of the independent producers, and in this way defeated a project for building an independent railroad from the coal region to tide-water. In January, 1901, the Central Railroad of New Jersey was purchased through the same influence and turned over to the Reading Railroad. The effectiveness of these changes in consolidating the monopoly was shown by the fact that the higher price for anthracite coal, which was the natural consequence of the strike of 1900, was continued and even increased in 1901 and 1902, to the profit of the railroads. According to a reliable estimate the railroads controlled in 1901 some 96 per cent of the anthracite deposits and actually owned over 90 per cent. The dependence of the individual operators who remain in the field upon the coal roads for access to the markets insures in ordinary times their acceptance of any agreements which the managers of the latter may enter into for the common benefit. At the present time, November, 1908, the anthracite coal combination and the different railroads that compose it are the defendants in a suit instituted by the Attorney General of the United States charging a violation of the federal anti-trust act. While, to the lay mind, there is every indication, not only that the coal combination exists, but that its price-making power is limited only as is that of every other monopoly, by the presence of substitute commodities, such as bituminous coal, wood, petroleum and gas, there is yet some doubt as to the outcome of this suit. The only bond which holds the combination together is a secret "gentlemen's agreement," the terms of which have thus far been successfully concealed from the courts. Unless these terms can in some way be established as legal evidence the Government will probably fail in its prosecution of the combination. Whatever the outcome of the suit, however, it can hardly be questioned that so long as

the agreement is adhered to the economic result will be the same as though all the roads were owned by a single corporation. The situation illustrates some of the difficulties that oppose attempts at the suppression of natural monopolies by law.

Opinion is divided as to whether in future years the opportunity open to consumers to substitute other articles will serve as a sufficient check on the anthracite coal monopoly or whether legal interference will be necessary if the interests of the public are to be protected. Without attempting to decide the question, we may lay it down as a general principle that the Government has not only the right, but the duty, to regulate a natural monopoly like the anthracite coal combination when it appears that such a business is taking advantage of its position to charge exorbitant prices for the commodity it controls.

Some of the more important industrial combinations, such as the Standard Oil Company and the United States Steel Corporation, have undertaken to acquire control of the sources of supply of the raw materials they use. In neither case has this development gone far enough to justify the characterization of these businesses as natural monopolies of situation, but that their managers are consciously directing them towards this goal seems apparent. The future alone can tell whether the sources of supply of such widely distributed materials as petroleum, iron ore and coking coal can actually be controlled by single corporations. To the extent that they may be, the trusts referred to may become natural monopolies of situation instead of mere capitalistic monopolies.

**189. Natural Monopolies of Organization: Water, Gas and Electricity.**—The second class of natural monopolies embraces all businesses whose expenses of production show a steady tendency to fall as the size of the business grows. Between such businesses competition can have but one result, combination, and monopoly once established can

maintain itself indefinitely because it can conduct its large-scale operations more cheaply, and therefore sell more cheaply, than any small-scale competitor that may be tempted into the field.

The transportation and delivery of water to each house in a city is a business of this kind. It is too obvious to require discussion that one company having one large supply pipe and smaller individual pipes for each house can supply water to a single street more economically than two or more competing companies. It is almost equally obvious that one company can supply the water for several adjacent streets more cheaply than competing companies each having a street to itself. In order to pump and store water economically it is necessary to do it on a larger scale than is open to a water company which supplies houses on a single street. As regards this part of the business, economical production requires that the whole of a city of less than 500,000 inhabitants should be supplied by one company and that proportionately large sections of larger cities should be so supplied. But the mechanical is only one side of the business. When in addition are considered the economies in expenses of administration open to the larger plant, the saving due to the smaller excess storage capacity required when a shortage of water from one source can be balanced by larger supplies from other sources and all the other possible economies of combination, the reasons for characterizing the business of supplying water in cities as a natural monopoly of organization become clear.

Quite similar to the case of a water company are the cases of gas and electric-lighting companies. They also use main supply pipes or wires and must control all the business in a large section of a city in order to be conducted most economically. Moreover, for them the saving in the expenses of administration that can be effected as the company expands is of the utmost importance because

their businesses are more complex. Few familiar with these businesses deny that they are natural monopolies in the same sense as the water business, or think that competition can regulate them, except that indirect competition which consumers themselves set up between gas, electricity and petroleum as means of lighting dwellings. When, as is frequently the case, the same set of men control the municipal gas monopoly and the electric-light monopoly, even this competition becomes a rather unreliable dependence.

**190. The Street-Railway Monopoly.**—The street-railway business has many features in common with the businesses just described. A street-railway company must also have a monopoly at least of the single street on which its cars run, partly because of the useless duplication of plant that would result if a rival company were maintained and partly because of the physical limitations of the street itself which makes even one set of tracks a serious inconvenience to the public. Rival companies may be chartered to run cars on adjacent streets, however, and this was the usual first step in the history of the relations between municipalities and street-railway companies in the United States. For a time companies operating parallel lines may compete, but their competition, as experience has demonstrated over and over again, always ends in consolidation. Each company has to have its full equipment of tracks, feed barns or power houses, cars, etc., and the most expensive of these items stand as fixed and necessary charges, irrespective of the volume of business which the company handles. Suppose that two rival companies begin by halving the business for the section of the city which they serve. If their tracks are but a square apart a very slight advantage in favor of either will divert to it passengers from the other. This consideration may lead one to lower its fares; but this is a game at which two can play with about equal success and its sure consequence

is loss of profits for both competitors. Realization of this fact comes quickly and causes a first step towards consolidation, an agreement as to rates of fare.

But there are other ways in which passengers may be attracted from a rival line. If the companies start as horse-car lines, as did the street-railway companies of all the older cities of the United States, superior management will show itself in quicker service. Every passenger drawn to the better line will add nearly his entire fare to its profit account—since the fixed charges are relatively so large and the running expenses, which alone increase with the number of passengers carried, relatively so small—and will, for the same reason, deduct nearly his entire fare from the profit account of the rival company. The successful competitor has thus a larger and larger profit fund with which to improve still further the quality of its service, while the other company is forced by falling profits to enter upon a policy of retrenchment and economy which will drive away still more of its customers. The inferior company may struggle on and pay small dividends so long as both lines use the same sort of power, but the introduction of the cable or trolley system by the superior line is likely to draw away so many of the passengers of the other that it is driven into bankruptcy—or consolidation with its rival. This in brief is the story of the street-railway business in the cities of the United States. Its chapters have become so familiar to street-railway managers that they now usually take a short cut to consolidation as soon as a rival company is chartered to run on streets parallel to their own lines. Only in case the organizers of the new company demand too high terms is the experiment of competition actually tried and the question decided, as in the medieval trial by combat, which contestant is to absorb the life of the other.

The advantages of consolidation in the street-railway

business are similar to those enumerated in connection with other natural monopolies. (1) The fixed plant may be more fully and more economically utilized. Thus, cars may be run only over the streets that are most conveniently situated for traffic, power stations may be placed more advantageously and the rolling stock may be better adapted to the tastes of different classes of patrons, new cars being used on fashionable streets and old equipment worn out where it will excite least criticism. (2) Superior ability may be employed in each department and specialization may be carried further. (3) Improved appliances may be experimented with and introduced more readily than by smaller competing companies. As regards the street railway, then, as regards the businesses of supplying water, gas or electricity, the conclusion seems to be justified by theory and confirmed by experience that monopoly is the natural, inevitable and economically desirable form of organization.

**191. The Telephone Monopoly.**—The next most important municipal monopoly, the telephone business, owes its form of organization to somewhat different circumstances. Unlike the business just described it is not subject to the law of decreasing expense. On the contrary electrical engineers maintain, and with apparent reason, that the larger the number of subscribers served through one exchange the larger is the expense per subscriber of rendering the service. This is because the exchange stations must be so arranged that each new subscriber—or group of subscribers where party lines are used—may have his wire connected readily by each of the many operators required in a large office with that of every other subscriber. If one operator is able to attend to the calls of fifty subscribers and the office serves one thousand, this necessitates twenty different terminals at the exchange for each wire. If the number of subscribers doubles, each separate wire must be let in at forty points. If five thousand sub-

scribers are to be served, each wire must have one hundred distinct terminals. In this way the expense at the central office increases by multiplication rather than by addition. For five thousand subscribers not five times, but twenty-five times as many connections are needed as for one thousand. Nor is there the saving of expense outside the central office in the telephone business that is to be found, for example, in connection with electric-lighting. For the best service it is necessary to have a distinct wire for each new subscriber. Fair service can be given to two parties on the same line. Four-party lines are less satisfactory. Lines serving more than four have been found to work so badly that they are now little used in cities. Thus as regards outside wiring the expense grows uniformly with the number of subscribers. There are, of course, on the other hand, economies in administration, etc., which result from an increase in the number of subscribers and which must be taken into account. On the whole it appears to be true, however, that increasing rather than diminishing expense is the law of growth in the telephone business.

Monopoly resulted in this business at the outset from the patent, which until 1895 gave the Bell companies the exclusive right to meet the need that the telephone soon came to fill. Since 1895 the monopoly has been maintained in many cities in consequence of the unwillingness of the public authorities to grant franchises to new companies. In other localities, and especially throughout the Middle West, rival companies have started up and competition has been an active influence in determining charges and quality of service. The fact that the business is subject to the law of increasing expense is favorable to the perpetuation of this competition. The consideration that opposes it is that, assuming equally prompt connections, the convenience of the community is better served by one large company than by two or more smaller ones.

The larger the company the larger the number of persons with whom each subscriber may converse. One company controlling a city's entire business can put each of its subscribers into communication with every other person in the city who has a telephone. Two or more competing companies cannot do this. Their service may be cheaper but it cannot be as extensive. In the telephone business then, considerations of expense make for the survival of the smaller companies and the perpetuation of competition; considerations of convenience make for combination into a single company and for monopoly. For the above reasons there is still difference of opinion among telephone experts as to whether the business should be classed as a natural monopoly of organization or not. We have so classified it because, the country over, competition in the business is the exception rather than the rule. Whether this is because the business started as a legal monopoly or because it is monopolistic in its very nature time will determine.

**192. The Solution of the Municipal Monopoly Problem.**—The usual first impulse of the student of the municipal monopoly problem is to advocate municipal ownership and operation as a remedy, and there is much to be urged in favor of this policy. Monopolies by their very nature, concerned with services in which the whole people have a vital interest and limited in the scope of their operations to the particular town or city which they serve, these businesses, if any, it would appear, should be undertaken by municipal governments as branches of the public administration. Yet the objections to such a policy for the cities of the United States are very strong. The arguments on either side must be weighed in connection with the local conditions affecting the problem. Only in this way can a wise decision be arrived at.

The advocates of public ownership claim the following advantages for that policy: (1) The quality of the serv-

ice rendered by a branch of the public administration is likely to be superior to that resulting from private enterprise. (2) The desire for profit being removed, the charges under public ownership will be adjusted to the expense of rendering the service. From this it is argued that charges will be low and the widest use of these essentials to civilized existence will be encouraged. (3) The corrupting influence of unscrupulous corporations anxious to retain or to have extended their franchise privileges will be removed from city politics. (4) Enlarging the scope of municipal activities will enlist in the service of the city more and better officials. At the same time it will increase intelligent interest in public affairs and tend to elevate the tone of political life. This argument assumes, of course, that the new departments of the municipal government will be subjected to adequate civil service regulations. (5) Experience, it is claimed, has shown that nothing short of public ownership and operation of these businesses can secure the degree of control necessary to the safeguarding of the public interests.

In support of private ownership and operation the following considerations are urged in rebuttal: (1) There is no ground for assuming that the service rendered by the municipal government will be better than that rendered by private enterprise. On the contrary, if experience is to be relied upon, municipal governments will inflict on the public water, gas, etc., of qualities that would not be tolerated from private companies organized for profit. (2) The inefficiency characteristic of municipal activity is certain to show itself in high expenses of operation. These higher expenses may necessitate higher charges than are required under private management even to afford liberal monopoly profit. (3) At the present stage of political development, public ownership and operation would mean simply more spoils for politicians. In its practical effects it would be even more demoralizing, polit-

ically, than the corrupt influence of private corporations complained of. (4) Private ownership is more progressive than public management. Though temporary advantages might result from public ownership, it is argued that this policy would sacrifice the public interest in the long run by checking improvements. (5) It is denied that adequate legal regulation and control of private companies may not be secured when the community is really alive to its own interests. Given care in the drafting of franchises and insistence that these shall lapse after a limited time, more satisfactory results may be realized, it is claimed, under private than under public ownership.

These arguments, it will be seen, are partly contradictory and partly related to unconnected phases of the problem; their mere statement emphasizes the necessity of studying local conditions before declaring for either public or private ownership. In general, it is probably true that the quality of the service can be more easily controlled under public than under private management. Where quality of service is all-important, as in the case of the water supply, this furnishes an argument for the former which is not found, for example, in connection with the telephone business. On the other hand, where the methods of operation are in process of rapid improvement, as in the case of the telephone business, the superior progressiveness of private management is an argument on that side that is not found in connection with the business of supplying water. More striking even than differences between the different businesses are the differences between the political preparedness of different localities for public ownership. In certain New England towns, where public spirit is highly developed, these services may be and have been undertaken with success. In other towns of the same size in other sections, in which civic self-consciousness is just beginning to manifest itself, attempts to perform

them through the town governments have frequently resulted in failure.

In the United States, up to the present time, there has been a marked tendency to rely upon private initiative and private enterprise for the performance of these services, as of other services of an industrial character. The only important exception has been in connection with the business of supplying water to dwellers in towns and cities, and this has been undertaken by municipal governments less because of any distrust of private enterprise in this field than because good water has been demanded by public opinion even before the business of supplying it gave promise of proving financially successful. On the other hand, abroad, and especially in Germany, the preference is for the public ownership and operation of businesses of this type. Where the conditions are sufficiently similar to admit of comparison, something may be learned by a study of the results of the different systems in different lands, but, unfortunately, conditions in the United States are quite unlike those in any European country, and it appears to be the rule that those who apply the comparative method to this problem prove, at least to their own satisfaction, just about what they hoped to establish when they began their inquiry.

**193. Methods of Regulating Municipal Monopolies.—** If, after carefully weighing the advantages and disadvantages of municipal ownership and operation, a community decides against their adoption, the alternative is by no means the unregulated private ownership and operation encountered in most American cities. For these monopolies, especially, public regulation and control are indispensable to the protection of the public interest. To determine how this control shall be exercised, whether by board, commission or single administrative officer, is a problem for students of politics rather than of economics, but the following general principles may

be suggested: (1) Such businesses are natural monopolies, and nothing is to be gained by attempting to subject them to the control of competition. Exclusive franchises should be granted to the companies entrusted with them. (2) These franchises should be limited to a definite term of years. The term must be long enough to encourage that investment of capital that is indispensable to efficient service, but not so long as to commit the municipality to high charges when changed conditions may make lower charges profitable. When the term expires the franchise should revert to the municipality and it should have the privilege of acquiring for itself or for a new company, at a fair valuation, the plant and equipment of the old company, in case its charter is not extended. (3) The specifications in the charter should be carefully drawn by experts so as to insure, at least at the outset, the best quality of service at reasonable rates. Charters should be granted like other Government contracts to the responsible bidder offering the most favorable terms, and every effort should be made to advertise widely the provisions of the charter, and to prevent collusion between those who make bids. Space will not permit detailed discussion or defense of these principles. Although stated dogmatically, it is believed that they represent the consensus of opinion among students of public-service corporations who recognize them as monopolies and yet hesitate to advocate for them municipal ownership and operation.

It is one thing to lay down general principles and quite another to carry them out in practice. Only of late years has public opinion in the United States been sufficiently enlightened on the subject of municipal monopolies to demand any sort of adequate control and regulation, and in the meantime all sorts of abuses have been permitted. Perpetual charters have, in many cases, been granted on terms which permit the companies operating under them to disregard completely the interests of the public. Worse

than all, public-service corporations have come to exert an influence on political parties, through contributions to campaign funds, and on public officials, through powerful and unscrupulous lobbies, which opposes a serious obstacle to efforts to control them through political means. Neglect of the question has brought about a state of affairs in which each community is confronted by a special problem, modified by local conditions, and must proceed as best it may to gain the mastery over the corporations which it has so carelessly created and allowed to grow to overweening power and influence. In dealing with such corporations vested interests must be respected, but it must not be forgotten that the true interest of the whole community is more important than that of a particular class in the community, and that every great reform of necessity inflicts hardship upon some individuals. It is the duty of the Government to indemnify those who are injured by changes which are deliberately undertaken with a view to the general welfare, but it is even more its duty to make such changes. The reform and the desirability of the reform should be the predominant considerations, the indemnification an incidental accompaniment neither to be exaggerated nor lost sight of. Only thus can progress towards a better economic and political organization of society be realized.

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## CHAPTER XXI

### THE RAILROAD PROBLEM IN THE UNITED STATES

194. National Monopolies of Organization.—In addition to the municipal monopolies discussed in the last chapter there are businesses, national in their scope, which should also be classed as natural monopolies of organization. The principal are the telegraph, the long-distance telephone, the express and the railroad businesses. For them, as for municipal monopolies, the fixed charges are a chief item of expense. Thus a telegraph or long-distance telephone company, whether large or small, must maintain offices in and connecting wires between the principal centers of population or it will have few patrons. In comparison with the cost of this necessary equipment the expense of receiving and sending messages is small. It follows that one company utilizing fully its permanent plant can conduct all of the business more economically than can two or more companies needlessly duplicating plants. In the express business the situation is similar as regards terminal offices, although the tendency towards combination and monopoly is less marked than in the telegraph business, because the actual transportation of goods is effected by railways acting as agents. These circumstances make monopoly the economical form of organization for each one of these businesses. That no one of them has yet become an open monopoly in the United States is no disproof of this assertion. Public hostility to monopoly is so familiar and finds such frequent expression in legislation and the decisions of the courts, that

business managers are careful to maintain the forms of competition even after the substance has departed.

**195. Circumstances Making the Railroad Business Monopolistic.**—The railway business exhibits on a larger scale similar conditions to those found in the telegraph business. Roadbed and terminal facilities represent heavy fixed charges that must be met, no matter how small the volume of business. The more fully these can be utilized in carrying on a dense traffic the smaller will be the expense for each unit of traffic. It follows that competition for business among long-distance railways partakes of the same life-and-death character that was described in connection with street railways. When one road gains an advantage and begins to swell its profits by drawing from the profits of the other company, the situation of the latter is very soon rendered desperate. It has to choose between combination with the other road on its own terms and bankruptcy, and either choice, as American experience has shown over and over again, means in the end combination and monopoly. "A railroad is thus," to quote from one of the Reports of the Interstate Commerce Commission, "essentially a monopoly. This is literally true as to all local points upon its line which are reached by it alone." And it is virtually true, as the report adds by implication, even of "competitive points," since the rates at such points are now fixed quite generally by agreements among the nominal competitors.

**196. Progress toward Concentration in the Railroad Business in the United States.**—The progress toward concentration of railway control in the United States has been marked by three distinct stages. In the earlier period the railways were looked upon as beneficent agencies meriting generous public support and full confidence. Consolidations were regarded with indifference, if not with favor, and the business was permitted to develop in the direction of monopoly as rapidly as its nature dictated.

About 1870 it began to be appreciated that the power of the railways for evil was quite as great as their power for good. The cry of extortionate rates and monopoly was raised, especially in the agricultural States of the Middle West, and an era of drastic restrictive legislation was inaugurated. For fifteen years the States tried to deal with the railway problem through State laws and State railway commissions armed with sweeping powers. The chief result of their efforts was to educate public opinion as to the real nature of the railway business and to prepare the way for Federal interference. Incidentally they forced some of the roads into bankruptcy, and compelled all of them to substitute secret for open methods for securing the centralization of control that continued to be desirable. In this second stage secret agreements in regard to rates were substituted for competition. The ease with which such agreements might be violated suggested that to them be added definite understandings in reference to the division of the traffic among nominally competing roads. The entire business was "pooled" and then divided up in an agreed proportion among the companies entering into the pool. As one provision of these pooling agreements guaranteed to each road its proportion of the revenue from the joint traffic, whether it carried its exact proportion of the freight and passengers or not, the inducement to rate-cutting on the part of individual roads was removed, and the stability of rate agreements was proportionately strengthened. Such "pools" became very common after 1880 and served to create combinations and monopolies on behalf of the roads entering into them as effective, while they lasted, as though the roads were under one management. In consequence, they became special objects of attack on the part of those who still believed in competition as a remedy for excessive railway rates. When the Interstate Commerce Act was passed, in 1887, one of its clauses expressly forbade "pool-

ing." The Federal Anti-Trust Act of 1890, as interpreted by the United States Supreme Court, went even further, and prohibited all agreements in regard to rates. In consequence of these two measures railroad managers have been compelled during the third period of railroad development to look for other means to harmonize conflicting interests and secure the desired centralization of control. Among such means the most common have been the acquisition by one road of control over others through stock-ownership, the combination of two or more roads in holding companies owning sufficient stock in each to control them and the development of a "community of interests" among railroads through stock-ownership on the part of one or more of them in the others falling short of control. In these different ways centralization of control has been extended to embrace a constantly growing proportion of the railroad mileage of the United States. Thus, while in 1890 less than half of the total mileage of the country was operated by companies controlling 1000 miles of line or more, by 1900 more than 60 per cent was so controlled. At the beginning of the new century there were indications that progress in this direction would go forward at an accelerated rate. In the year 1901 alone three great combinations were consummated: the Pennsylvania Railroad acquired a large interest in the Baltimore and Ohio, the Union Pacific acquired control of the Southern Pacific and the Northern Securities Company combined the Great Northern and the Northern Pacific just after the latter had acquired the Chicago, Burlington and Quincy. The last of these consolidations was declared illegal by the Supreme Court but without, apparently, interfering with the unified control which it was designed to establish on a secure legal basis. The decision against the Northern Securities Company (1903) prevented the consummation of other plans of consolidation that were under consideration at the time it was rendered,

but community of interests arrangements have continued to be made with the result that there is greater harmony, that is, less aggressive competition, among the great railroad systems of the country to-day than at any previous period. This does not mean necessarily that rates are higher than formerly, although the Interstate Commerce Commission secured a good deal of evidence indicating that they were raised by joint action on the part of the railroads of the country from January 1, 1900, to January 1, 1902. The railroad is still restrained in its rate-making by all of the considerations enumerated in the section discussing the limitations on monopoly (Section 76), and happily the railroad business is of such a nature that low rates and a large volume of traffic are usually much more profitable than high rates and a smaller amount of business. It does mean, however, that the time has passed when competition among railroads can longer be relied upon to control the policies of railway managers.

197. **Discrimination in Railway Rates: Among Commodities.**—The first attacks upon the railroads, in the Granger legislation of the decade from 1870 to 1880, were based on the charge that their rates were extortionate, but it is now generally recognized that a more serious evil in connection with them is discrimination. This may be of three kinds: First, freight classifications may be made in such a way that particular commodities are discriminated against. For example, it has been charged against the railroads carrying wheat from the Middle West to the sea-board that they make rates on wheat so low in comparison with their rates on flour that the millers of Minneapolis and Duluth can no longer produce for export. The determination of the rates that shall be charged on different commodities presents one of the most difficult problems in the whole range of railroad practice. In general, the policy of railroad managers is so to classify articles that each shall pay as high a rate as "the

traffic will bear." The more valuable the commodity, in proportion to its bulk, the higher, ordinarily, the rate it can afford to pay. On this ground the highest rates apply usually to costly finished commodities, and the lowest to staple materials. It is obvious that within the limits of this general plan there is wide range for variation, and that the railroad manager who wishes to favor the development of one industry at the expense of another, or of one locality at the expense of a rival or of one firm in opposition to its competitors, may do so in many cases merely by changing the rates on the articles to be affected.

More serious, because more far-reaching in its consequences, is the second form of discrimination—that among places. Under present conditions no community lives to itself alone. Most communities produce chiefly for export to other localities and rely on other localities for most of the commodities needed to gratify home wants. As a rule, the railroad is the agency through which the exportation of surplus products and the importation of needed products in exchange are effected. It has still at certain points competitors in the public highways and in canals and water routes, but for ninety out of every one hundred communities in the United States the services of the railroad are indispensable to industrial prosperity, if not to industrial existence. Under these circumstances the power of railroads to stimulate or retard the prosperity of centers of population can hardly be exaggerated. By granting low rates they can transform even unpromising sections into busy seats of agriculture, manufacturing or mining. High rates may have an equally deadening effect upon sections that were previously prosperous.

In general, the interest of the railroad is served by encouraging the growth of centers of population where the natural conditions are most favorable, but it often happens that special reasons lead to quite a different policy. One such reason is the necessity of sharing traffic with

other transporting agencies at competitive points. If high rates are asked at such points, the temptation to break traffic agreements in order to obtain a larger share of the business is too strong to be resisted. Hence low rates usually prevail where two or more roads serve the same community, and railroad managers are only too apt to charge high rates at intermediate points. Local rates were so high when the Interstate Commerce Act was passed in 1887 that a special clause, known as the "long and short haul provision," was inserted to protect local shippers. This provides that the rates between intermediate points on the same road must not exceed rates between terminal points. Another reason for discrimination among places is the special interest which the railroad or its managers may have in the development of particular localities. It has not infrequently happened that railroad managers who have acquired large tracts of land in particular sections have deliberately lowered freight rates for such sections in order to attract settlers to them and in this way enhance the value of their holdings. The demoralizing consequences of such unjust practices have been experienced too frequently in all parts of the United States to require emphasis.

**198. Discrimination Among Persons.**—The third and worst form of rate discrimination is that among persons. The motive for such discrimination is inherent in the nature of the railway business. Unlike the farmer or the manufacturer, the railroad manager cannot calculate what it costs him to carry additional freight or additional passengers. His fixed charges must be met in any case. The additional expense connected with additional traffic is so small that almost any rate for the particular traffic will prove profitable so long as the open rate for other traffic is maintained. "Generally speaking," to quote again the language of the Interstate Commerce Commission, "he feels that he must have the traffic. His road is there, and

it can be used for nothing else. The property with which he stands charged may be seriously injured without that particular traffic, and he must get it when it is moving. He cannot lie idle for better prices or more prosperous conditions. There is, therefore, a constant temptation to obtain it at any cost. Now, the rates between two competitive points have been published. The manager of one road finds that business has abandoned his line, and he believes that it is moving by a rival route. He can draw but one inference, and that is, that his competitor has secretly reduced the rate. Under these circumstances what shall he do? Shall he maintain the published rate and thereby abandon business? But that means disaster to his road, the loss of his reputation as a manager, and ultimately of his employment. What most managers actually do is to get the business by making whatever rate is necessary.”\*

It may be said that railroad managers have no more reason to deal unequally with different customers than managers of other businesses; but this is, unfortunately, not the case. A situation which frequently confronts a manager was described by Mr. C. M. Wicker of Chicago, in testimony given before an investigating committee of the Illinois legislature. He said: “Here is quite a grain point in Iowa, where there are five or six elevators. As a railroad man I would try and hold all these dealers on a level keel, and give them all the same traffic rate. But suppose there was a road five or six miles across the country and all these dealers should begin to drop in on me every day or two and tell me that the road across the country was reaching within a mile or two of our station and drawing to itself all the grain. You might say it would be the right and just thing to do to give all the five or six dealers at the station a special rate to meet that competition through the country. But, as a railroad

\* *Twelfth Annual Report* (1898), p. 18.

man, I can accomplish the purpose better by picking out one good, smart, live man, and, giving him a concession of three or four cents a bushel, let him go there and scoop the business. I would get the tonnage, and that is what I want, but if I give it to five it is known in a very short time." For such reasons railroad managers usually prefer to deal with one rather than with a number of shippers. The discriminating rate must be kept secret or other shippers will be dissatisfied, and secrecy is only possible where knowledge of the transaction is confined to the manager and the favored shipper. Nor are shippers themselves entirely passive in connection with discriminations. Business managers controlling large amounts of traffic at competitive points are well versed in the process of playing roads off against one another. It is even alleged that in some cases men have withdrawn their entire business from one road in order to convince its traffic agent that they were getting discriminating rates from another, and in this way persuade him to grant even lower rates, when, as a matter of fact, no discrimination had existed.

The reports of the investigating committees and commissions which have inquired into the practices of railroads in the United States are full of evidence as to the extent to which discriminations have been practised in the past. Some of the most flagrant cases have been brought to light in connection with investigations of the trusts. Thus, in one case the Standard Oil Company entered into a formal contract with a railroad, which was at the time operated by a receiver, under which the latter was to charge it ten cents a barrel for transporting its oil and other companies thirty-five cents for the same service, with the proviso that twenty-five cents of this excessive charge should be paid to the Standard Oil Company. That such an arrangement would be fatal to competitors who were compelled to ship over a railroad making such discrimination is obvious. There is abundant evidence that similar, if

less favorable, traffic arrangements had much to do with the early success of the Standard Oil Company in crushing its competitors or compelling them to sell out to it on terms favorable to itself. In the judgment of the Interstate Commerce Commission, expressed as recently as 1898, "there is probably no one thing to-day which does so much to force out the small operator and to build up those monopolies against which law and public opinion alike beat in vain, as discrimination in freight rates."

**199. Monopoly Profits from the Railroad Business in the United States.**—That the businesses classified as national monopolies of organization have given rise and do give rise to very large monopoly profits is well understood, but reasons already explained make the exact measurement of these profits impossible. These businesses are peculiarly sensitive to public opinion and have been careful to so adjust their nominal capitalizations to their earning powers that the interest and dividends that they pay to investors seem, when the risks connected with such enterprises are considered, scarcely a fair and certainly not an excessive return. Thus the aggregate capitalization of the railroads of the United States was returned to the Interstate Commerce Commission on June 30, 1906, at \$14,570,000,000 divided about equally between bonds and stock. During the preceding year interest was paid on 96 per cent of the bonds, but on only 67 per cent of the stock, and the average return on bonds and stock together was less than 3.7 per cent. On only 10 per cent of the stock were dividends in excess of 8 per cent paid, while on more than three-fourths of the outstanding bonds the rate of interest was under 6 per cent. Equally modest returns are shown for most of the telegraph, long-distance telephone and express businesses of the country. To get behind figures like the above to a knowledge of the relation which earnings bear to actual investment in these enterprises is a task that has only been undertaken in a few

instances. It is undoubtedly true that in many cases these monopolistic businesses have proved unprofitable. For them as for other monopolies, monopoly profit is a possibility rather than a necessity. No matter how complete the monopoly which a railroad may enjoy of the traffic of a given section, it cannot make this the source of monopoly profit if the section happens to be a desert and its traffic only sufficient to employ one train a week. It is equally incontestable that many of these enterprises have proved enormously profitable. The railroads in the older and more prosperous portions of the United States have earned immense fortunes for hundreds of different investors and speculators and promise to earn equally large fortunes for as many more before the rates are adequately controlled in the public interest. The enormous earnings which the railroads alone are capable of making are illustrated by comparing the figures for recent years. The year ending June 30, 1906, was considered a year of great prosperity in the railroad world, and yet the net earnings of the railroads of the country increased in the following year, according to the Statistician of the Interstate Commerce Commission, over \$50,000,000 and the dividends paid nearly \$30,000,000. And these additional earnings were realized for the most part, not by roads which were not paying a fair return on capital invested in 1906, but by those which even in that year were making large monopoly profits. If to the monopoly profits of the railroads we add those of the other national monopolies referred to, we may assert without exaggeration that the aggregate return from these sources adds its hundreds of millions of dollars to the annual income in the United States that is properly characterized as monopoly profit.

**200. The Interstate Commerce Act.**—Efforts on the part of the State legislatures to regulate railroads in the United States have encountered an insurmountable obstacle in the clause of the Federal Constitution assigning

control over interstate commerce to Congress. Their power to regulate is limited to the affairs of State roads, and these now play a very minor part in the railroad business of the country.

Congress did not bestir itself with a view to regulating railroads engaged in interstate commerce until 1885. In that year the Senate appointed a special committee to inquire into the evils of railroad management. Its report, submitted the following year, furnished the basis for the Interstate Commerce Act of 1887. The principal provisions of this important measure were the following: (1) discriminations among persons, places and commodities were prohibited, and railroad officials granting discriminating rates were made liable to fine and imprisonment; (2) railway rates for interstate traffic were required to be just and reasonable, and any rate not just and reasonable was declared to be unlawful, and valid ground for a suit for damages by the injured party; (3) railroads were required to publish their rates and to change them only on public notice; (4) they were prohibited from charging a higher rate for a short haul than for a long haul over the same line and under similar circumstances, unless authorized to do so by the Interstate Commerce Commission; (5) pooling contracts among railroads were prohibited. The Act also created the Interstate Commerce Commission and made this commission responsible for its enforcement. The powers of the Commission were extended by an amending Act passed in February, 1891. It may now subpoena witnesses and require testimony, even though such testimony is incriminating to the witness giving it, and call upon assistant attorneys general to bring suit in the name of the United States against offending railroads and their officials.

Notwithstanding its large powers the Interstate Commerce Commission failed during the first nineteen years of its existence to enforce some of the essential provisions

of the Interstate Commerce Act. This was due chiefly to defects in the Act itself of which the most serious was the attempt to prohibit, at one and the same time, discriminations and pooling. Experience has shown conclusively that competition among railroads tends strongly to take the form of discrimination. Competition in the railroad business means in practice making special rates to attract special traffic. But experience has shown with equal conclusiveness that agreements among railroads designed to put an end to competition can only be maintained when supplemented by pooling contracts. So long as the proportion of freight which each road is to secure depends upon its activity, the self-interest of railroad managers, or their credulity acted upon by the misrepresentations of unscrupulous shippers, make discrimination in rates almost inevitable. The law undertakes to enforce two lines of policy which can only be combined with the greatest difficulty so long as different railroads act as carriers for the same territory.

Had the Commission enjoyed from the first the enlarged powers conferred upon it in 1906 its success would undoubtedly have been greater, but the interpretation put upon the original Act by the Supreme Court made it almost helpless. That tribunal decided that a railroad may properly charge less for transporting imported commodities from a port of entry to their destination within the country than is charged for domestic products of the same kind, over the same route. This decision deprived the Commission of much of the influence it might have had in adjusting freight rates on imported goods to those on domestic products. The Court further held that while the Commission might declare any given rate unlawful because neither just nor reasonable, it might not prescribe a substitute rate which is just and reasonable and therefore lawful. Under this ruling the Commission's power was limited to condemning prevailing rates. While in prac-

tice this sometimes enabled it by repeated rulings to establish the rate it considered fair, it caused needless friction and delay. Even more serious were the repeated failures of the Supreme Court to sustain the Commission in its decisions in reference to rates. This was due in part to the policy of attorneys representing the railroads of withholding important evidence until appeal was taken to the United States courts, for the deliberate purpose of undermining the authority of the Commission.

**201. Amendments to the Interstate Commerce Act.—** The continuance of many of the abuses which the Interstate Commerce Act was designed to correct, frankly acknowledged by the Interstate Commerce Commission in its successive reports and ascribed by it to the inadequacy of its own powers, gave rise to an irresistible public demand for such modifications in the law as would put an end to discriminations and secure truly just and reasonable railroad rates. This demand, partially appeased by the passage of the so-called Elkins Act in February, 1903, was completely satisfied—at least for the time being—by the passage of the so-called Hepburn law in June, 1906. Together these amending acts confer on the Interstate Commerce Commission for the first time the power and dignity indispensable to the accomplishment of the important task entrusted to it. The principal changes in the law resulting from the new legislation are the following: (1) The number of commissioners is increased from five to seven and their salaries from \$7,500 to \$10,000. (2) The Commission is given complete control over the methods of keeping railroad accounts. (3) The penalties for granting discriminatory rates through any possible device or combination of devices are made to include imprisonment as well as fine and apply not only to the carriers and their responsible agents, but also to the favored shippers for whose benefit discriminations are made. (4) The Commission is authorized to secure injunctions restraining

railroads believed to be violating the law from continuing such violations. (5) Railroads are required not only to post in all their stations rate sheets giving full information in regard to all charges asked, but they are prohibited from changing rates except on thirty days' notice unless expressly authorized to do so by the Commission. (6) Finally, the Commission is given the coveted right to prescribe what rate will be just and reasonable for the future when it has decided that an existing rate is unjust and unreasonable, and on terms that greatly lessen the probability that its decisions will be set aside on appeal to the courts.

Although the last and most important of these amending acts has been in force but two years, there is already convincing evidence that it has put a stop to the worst of the abuses complained of, discrimination in rates. It has done this, in part by increasing the severity of the penalties for this offense, but much more by making the liability of detection so great, that neither carriers nor shippers desire to incur the risk which commission of the offense involves. Only as regards one important type of discrimination does exception need to be made to this statement. Should the Supreme Court of the United States follow the circuit court in holding unconstitutional the so-called "commodity clause" of the Hepburn Act—a clause prohibiting railroads from owning the commodities, other than lumber and articles intended for their own use, which they transport—it will still be possible for railroads like the anthracite coal owning roads to discriminate in their own favor (*cf.* Section 188). Although serious in itself, this abuse is after all but a small part of the discrimination evil. That it has been eradicated at all other points is a great triumph for the new law. Whether it will be equally successful in securing just and reasonable rates is still open to question. On this topic we shall have something to add in the concluding section (Section 204).

202. Arguments for and against National Operation of Express, Telegraph and Long Distance Telephone Businesses.—Many thoughtful persons, despairing of a satisfactory solution of the problem presented by national monopolies along the line of Federal regulation, advocate national ownership and operation of these businesses with the same confidence that they advocate municipal ownership and operation as a remedy for municipal monopolies. The extension of the postal business of the United States to include the express business is so widely advocated that it may be said to be a living issue. Hardly a session of Congress passes that bills are not introduced having this extension in view and such a step has been advocated with great regularity by recent Postmasters General of the United States. If the experience of other countries may be relied upon, this demand that the postal service be extended to include a parcels post, or express, service will become more and more insistent until it finally gains its point. The enlargement of the powers of the Interstate Commerce Commission to embrace express companies along with railroads, which was one of the minor features of the Hepburn Act, may for a time quiet this demand, but, by making the public more familiar with the facts of this business, it will probably serve in the long run to hasten the day when the experiment of government operation will be entered upon.

Arguments for government ownership and operation, similar to those already reviewed, are advanced also with reference to the telegraph and the long distance telephone businesses. On the other side, the most convincing argument in favor of a continuance of private enterprise in these fields is the technical unripeness of these peculiarly modern services. With the possibilities of wireless telegraphy still undetermined and with important inventions affecting the telephone following one another at frequent intervals, government ownership and oper-

ation of these businesses would seem to be, to say the least, premature.

**203. Arguments for National Ownership and Operation of Railroads.**—The national ownership and operation of the railroads of the United States are an even more ambitious project. In addition to the vastly larger initial outlay that such a policy would entail and the immense increase of public officials that would result from it,\* there are complexities in the railway business itself that make the success of government operation at least problematical. The principal arguments on which defenders of the government ownership program rely may be summarized as follows: (1) Discriminations would cease and in their place general tariffs, published in advance and applying to all shippers alike, would prevail. (2) Rates might be lower, as the roads would have to earn only the two per cent or so on the bonds which the Government might issue in exchange for them at the time of purchase, in place of the higher interest and dividends now demanded by stockholders. (3) In the determination of rates broader principles would be considered than those on which railway managers base their decisions. The railroads would become a great engine for the promotion of industrial and social progress. (4) The corrupting influence of private railway corporations would be removed from political life. (5) Such an enlargement of the field of government service would alter the feeling which the average American entertains for holders of public office. A new type would be drawn into the public service and the whole plane of official life would be raised until the preference would be for it, as has long been the case in Germany, instead of for private activity.

To these optimistic anticipations defenders of private

\* On June 30, 1907, as many as 1,672,074 persons were on the pay rolls of the railroads of the United States. During the preceding year the railroads expended \$1,072,386,427 in wages and salaries.

enterprise in the field of railway transportation oppose the following counter-arguments: (1) Rates would become rigid and instead of adapting themselves readily to changing business conditions, as at present, would force business to adapt itself to them, with industrial lethargy and stagnation as a result. (2) Loss of efficiency in organization and the methods of operation would prevent any lowering of rates under government management, at the same time that it would be likely to cause deterioration as regards quickness and convenience of service. (3) Substituting for present business principles vague rules in regard to social expediency, as guides in the determination of rates, would cause confusion without really promoting the ends sought. The question as to what constitutes just rates would become the favorite theme of demagogues, and even if not allowed to influence the rates actually charged, the latter would stir up public opinion against the Government in a way that must be detrimental to the public service. (4) The decision of rate questions as they affect different sections and of questions connected with railroad extensions would inevitably get into politics, and injustices even more intolerable than those now committed by the privately owned railroads would be practised for the sake of party advantage. (5) Far from raising the plane of public service, adding so enormously to the spoils of each national election would confirm the dominance of the corrupt party machine and party boss.

In addition to these partly theoretical and hypothetical objections, the opponents of national ownership emphasize practical difficulties. European experience is discredited on the ground that no European country requires more than a fraction of the railway mileage needed by the United States. The enormous cost of acquiring the present lines and the difficulty of deciding where new lines ought to be built are urged. Finally the whole proposal is characterized as a leap in the dark, when only the first steps

have as yet been taken towards trying to regulate the railway business through public commissions. The last consideration seems to merit most attention and is likely to postpone any experiments along the line of national ownership until the Interstate Commerce Commission has had full opportunity to test its ability to regulate the railroads in the public interest with the enlarged powers so recently conferred upon it.

**204. The Future of Railroad Regulation in the United States.**—Important as is the abolition of discrimination in rates, it cannot be accepted as a complete solution of the railroad problem. According to our analysis railroads are in a high degree monopolistic. As the country becomes more densely populated and the volume of traffic grows, the earnings of old, established railroads should show a marked tendency upward. Unless their charges are regulated by administrative decree, they are likely to become increasingly unjust and unreasonable and to afford larger and larger monopoly profits. But if the Interstate Commerce Commission is to accomplish its task of seeing to it that railroad rates are just and reasonable, not merely among themselves, or relatively, but absolutely, it must have at its command all the data necessary for distinguishing the reasonable from the unreasonable. The meaning usually attached to the phrase, "just and reasonable," in connection with charges is that they shall afford a just and reasonable return on the investment. It would be impossible at this late date to determine what the original investment in railroad property in the United States actually was. The most that can be expected is that the Commission shall be enabled to make a fair estimate of the present value of the investment on which holders of railroad securities are entitled to a return and that it shall have some measure of control over the relation between investment and capitalization in the future. The first step that is currently advocated as a means to

insuring just and reasonable railroad rates is the valuation of the physical property of the railroads of the country. Although this proposal is bitterly opposed by railroad managers, it can hardly be denied that it follows logically from the policy of rate regulation by Commission to which the Federal Government is now fully committed. Nor is there any good ground for believing that the carrying out of such a proposal would be disadvantageous to investors in railroad securities. Most of the great railroad systems of the country are now conservatively capitalized since the correspondence between tangible assets and capital liabilities, which was so often conspicuously absent at the outset, has since been brought about either by failure and reorganization, or by an appreciation in the value of certain assets, particularly real estate. In addition to directing the Interstate Commerce Commission to make an inventory of the property of the railroads, Congress must also empower that body to control future issues of capital stock and thus to determine in the future the capital invested on which a return may be justly and reasonably claimed by investors. Without such power, the Commission clearly cannot carry out the task which the law has all along imposed upon it, that is, to see to it that only just and reasonable rates are charged.

At the same time that regulation of the railroad industry is advanced this further step, a concession should be made to railroad managers which they would greatly appreciate. In its amended form the Interstate Commerce Act leaves no doubt that Congress recognizes the failure of competition to regulate railroad rates in the public interest and proposes to secure such regulation through the Interstate Commerce Commission. Under these circumstances there is no longer any justification for the sweeping prohibition in the present law of agreements as to rates, pooling arrangements, etc. Not only the logic but the practical exigencies of the situation demand

that the Commission be empowered to authorize such agreements among the railroads as are not opposed to the public interest and that agreements so authorized have the force of legally binding contracts. Such a change would facilitate a more economical and stable organization of the railway business and also lessen the temptation to discrimination. In the opinion of the writer these two important extensions of the regulative policy should be made as promptly as possible, for only in this way can this method of solving the railroad problem be given a fair trial. Then, to repeat the words of Judge Knapp, Chairman of the Interstate Commerce Commission, "if regulation fails, public ownership will be the next and early resort."

#### *REFERENCES FOR COLLATERAL READING*

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- \* *Johnson*, American Railway Transportation; \* *Ripley*, Railway Problems; \* *Hadley*, Railroad Transportation; *Stickney*, The Railway Problem; *Lewis*, National Consolidation of the Railways of the United States; *Dixon*, State Railroad Control; *Meyer, B. H.*, Railway Legislation in the United States.

## CHAPTER XXII

### THE TRUST PROBLEM IN THE UNITED STATES

**205. Capitalistic Monopolies, or Trusts, in the United States.**—The last species of monopoly calling for special consideration is that represented by the industrial combinations, or trusts, which we have characterized as “capitalistic monopolies.” As now used in the United States the term “trust” applies to any industrial combination which is so large as to be the dominant factor in the branch of production with which it is concerned. Many such combinations are not, of course, monopolies. Inasmuch, however, as their main purpose according to the unanimous testimony of their promoters is to suppress competition, monopoly may be said to be the goal at which they are aiming. We may define a trust, therefore, as *an industrial combination, not a legal nor natural monopoly, which seeks to throw off the restraints and avoid the wastes of competition by absorbing, controlling or crushing its would-be competitors.*

The psychology of the combination movement is easy to understand. From the point of view of the competitors in any line of business, competition is an evil rather than a blessing. It tends to lower prices when the interest of each individual competitor demands that they be maintained. It has been too customary in economics to argue as though the only motive of the entrepreneur were to enlarge the volume of his business. Quite as strong is his desire to receive high prices for his products. When producers are numerous and widely scattered and competition among

them is active, the individual entrepreneur must perform content himself with such price as the market affords, and give most of his thought and attention to keeping down his expenses of production by developing his business to the size most conducive to efficiency. The latter aim often leads him to cut prices in the hope of enlarging his sales, and is the force on which economists rely when they assert that competition tends to keep prices down to the expenses of production of representative firms. This is the situation in all branches of business in which small-scale production is the rule. Another situation is that in which a business is already concentrated into a few highly organized and shrewdly directed plants and in which the nature of the product, a protective tariff or some other barrier, excludes foreign competition. Competition among such great industrial plants may persist, and each entrepreneur may continue to seek to derive his profit by producing more cheaply and underselling his competitors. But competition is a wearing process. It is quite as likely that the competitors may agree to combine their plants and seek for profit, not through underselling one another, but through maintaining a remunerative price for the common benefit. If to this immediate advantage of combination be added the prospect that through it the expenses of production may be lowered and the competition of firms not in the combination suppressed, its attractions so far exceed those of continued independence that a trust is almost certain to be formed. As a well-known trust organizer expressed it, in words originally applied to the railroad business: "Where combination is possible competition becomes impossible."

The first industrial combination in the United States was the Standard Oil Trust, formed in 1882. This was a union of oil refineries in Ohio and Pennsylvania, brought about by the assignment of the stock of these companies to a board of nine trustees who in this way secured complete

control of the business. These trustees issued trust certificates in exchange for the shares of stock assigned to them and agreed to pay all dividends declared on such stock *pro rata* to the holders of these certificates. This was, in a literal sense, a "trust," and from it all later combinations have derived their rather misleading name. Similar trusts were organized by leading sugar refiners and whisky distillers in 1887. In 1890 and 1892, in suits involving the Sugar and Standard Oil Trusts, respectively, the courts of New York and Ohio declared this form of organization illegal. The organizers of the Sugar Trust lost no time in securing a charter from the State of New Jersey for a single corporation, the American Sugar Refining Company, which should absorb the plants which had formed the Trust. The certificate-holders of the Standard Oil Trust followed a different plan. Instead of creating one corporation, the trustees, who happened to be the owners, individually, of a majority of the stocks of the companies forming the Trust, divided up the shares of these companies among themselves in such a way that they continued to control them as completely as they had under the trust agreement. This arrangement was continued until 1899, when the capital stock of the Standard Oil Company of New Jersey was increased sufficiently to permit an exchange of its shares for shares in the other Standard Oil companies. In consequence the Oil Trust has since existed as a great holding company. The usual forms of trust organization have thus come to be the single corporation, owning outright the properties controlled, and the holding company.

**206. Progress of the Trust Movement.**—From the time of the organization of the Standard Oil Trust until January 1, 1898, the progress of the trust movement was slow. But during the next three years there was a veritable stampede among the managers of businesses of all kinds to enter into combinations. According to a reliable estimate 149

large combinations, with a capitalization of over \$3,000,-000,000, were formed during this period. The United States Census Bureau made an investigation of the industrial combinations carrying on business in the United States on May 31, 1900. According to its report, there were in the United States, on that date, 183 industrial combinations controlling 2029 plants. The capitalization of these corporations was a little over \$3,000,000,000, of which about \$1,800,000,000 was represented by common stock, \$1,000,000,000 by preferred stock and \$216,000,-000 by bonds. These figures are more conservative than those given by financial papers for the same period, and are certainly not exaggerated. Since the Census inquiry was made, several new combinations, including the giant United States Steel Corporation, have been effected. The capital of the latter company alone was \$1,400,000,000, of which \$304,000,000 was represented by bonds and the remainder was divided equally between common and preferred stock. It would be inaccurate to add the capitalization of this new corporation to the figures given in the Census Report, as much of its stock represents the stock of constituent companies which figured in that investigation. At the same time more than \$500,000,000 ought to be added on its account, as its capitalization was generously watered. Taking this and later combinations into account, \$6,000,-000,000 is believed to be a conservative estimate of the aggregate capitalization of the industrial combinations doing business in the United States on November 1, 1908.

**207. Reasons for the Trust Movement.**—The remarkable progress of the trust movement after January 1, 1898, suggests a connection between it and the contemporaneous revival of business prosperity. What that connection was is easily explained. The motives which led manufacturers to enter the trusts were the desire to suppress competition and to realize the economies of combination. By themselves these motives lost rather than gained

in strength with the revival of prosperity. Working with them, however, was the motive of the stock operator. Promoters, underwriters and "insiders" generally, wished to realize profits from the sale of new securities on a buoyant stock market, and these were the men who were most active in bringing about the combinations. The country had just passed through four years of serious business depression. Failures had been common, and even firms which had succeeded in avoiding bankruptcy had felt to the full the pressure of a relentless competition. It was in this period that the phrase "competition is the death of trade" became current and that the benefits of combination as exemplified in the successful trusts, the Standard Oil Company, the American Sugar Refining Company and the American Tobacco Company, were extolled. There seemed no reason why similar combinations might not be effected with equal success in other branches of business. The favorable mental attitude of business managers was paralleled by a very hopeful feeling on the part of the investing public. After the long years of depression, the rich returns to agriculture and other branches of industry enjoyed in 1897 set free a large surplus for investment. There was thus a ready welcome for the new securities of the industrial combinations.

Several of the combinations organized in 1898 resulted from the activity of energetic manufacturers in whom their associates and former competitors had confidence. They were literally "combinations" of former competitors, spontaneously entered into for mutual advantage. As time went on, however, it became more and more the rule for combinations to be effected by professional promoters, who made up for their ignorance of the practical details of the businesses that they proposed to unite by their knowledge of finance and their skill in persuading others of the merits of their plans. The method usually pursued by the professional promoter was as follows: The leading

competitors in the selected branch of industry were first persuaded that combination would be a good thing for the trade as a whole and induced to give their assent to the general plan of organization. This task was usually easy. Expert appraisers were then set to work to determine the cash value of the plants to be combined. Armed with information so obtained, the promoter had next to bargain with the owners of the different plants to determine the terms upon which they should enter the combination. Meantime, a charter was secured, usually from the State of New Jersey, authorizing a certain aggregate issue of common and preferred stock, and arrangements were made with some private banking or trust company to finance the undertaking. The arrangement between promoter and underwriter was usually that preferred stock to a certain aggregate amount should be taken at a certain price and paid for in cash, as the latter might be required. To this preferred stock might be added, as a bonus, an equal or even a larger amount of common stock. Besides the cash needed to purchase the plants of reluctant owners, the promoter usually required money in the treasury to insure the initial success of the combination. This also was secured from the underwriter. The promoter's own profit might come in the form of cash received from the underwriting syndicate, or in the form of stock in the new enterprise, to be held or sold as his judgment might determine. How largely it was sometimes necessary to over-capitalize a combination, in order to satisfy the demands of all those connected with it, is illustrated by the case of the Whisky Trust. According to testimony presented before the Industrial Commission, for each \$100,000 cash value of the plants taken into the combination \$100,000 preferred stock and \$100,000 common stock went to the owner, \$150,000 common stock went to the promoter, and \$100,000 preferred and \$150,000 common went to the underwriter, the latter being required to furnish a certain

amount of cash to serve as the working capital of the enterprise. Professor Jenks calculates that the promoters and underwriters of the trust received \$10,700,000 in preferred and \$13,360,000 in common stock, in exchange for \$3,500,000 in cash. What their profits were it is impossible to say, but judging from the quotations for the stock immediately after the combination was launched, they probably amounted to several million dollars. In another case, that of the Tin Plate Trust, evidence was presented before the Industrial Commission showing that the promoter received \$10,000,000 in common stock for his services, and that he probably realized \$2,000,000 to \$3,000,000 profit from the undertaking. These facts indicate the motives of promoters and underwriters and account for their activity in bringing the trusts into being.

**208. Financial Success of the Trusts.**—That the organization of many of the trusts was not in response to any legitimate business need has been shown by their financial results. Of the 183 industrial combinations investigated by the Census Bureau in 1900, but 121 had paid dividends. Moreover, of the ninety-two paying dividends on their preferred stock, only thirty had paid also on their common stock. Thus one-third of the total number paid no dividends at all and another one-third paid no dividends to common-stock holders. Since that year fully a score of trusts have either failed outright or been forced to reorganize in consequence of the gross discrepancies between their earnings and their capitalizations. A much larger number are still in a position which makes confident assertion about their success or failure as business enterprises hazardous.

Catastrophic as has been the failure of some of the recent combinations, it is not to be denied that the success of others has been equally striking. Thus the Standard Oil Company of New Jersey since it was enlarged into the present giant holding company has paid the following

dividends on its capital of \$100,000,000: 1900 and 1901, 48 per cent each year; 1902, 45 per cent; 1903, 44 per cent; 1904, 36 per cent; from 1905 to 1908, 40 per cent annually. The American Tobacco Company has been almost equally successful, but frequent changes in its capitalization make the history of its dividend payments too complicated a story to be told here. The American Sugar Refining Company paid 4 per cent on its common stock in the year of its organization. The following year, 1892, it paid 10  $\frac{1}{2}$  per cent; in 1893, 21  $\frac{1}{2}$  per cent; from 1894 to 1899, 12 per cent annually; in 1900, 7  $\frac{3}{4}$  per cent; from 1901 to 1908, 7 per cent annually. This company has also paid regularly 7 per cent on its preferred stock. Comment on the above showing is hardly necessary. Even on the assumption that all three of these enterprises were conservatively capitalized at the outset—and this is true of only one of them—their success far exceeds anything to be met with in the annals of competitive business.

**209. Economies Effected through the Trust Form of Organization.**—Some light is thrown on the reasons for the remarkable success of some of the trusts, in face of the complete failure of others, by a study of the economies with which they are credited. In addition to the general economies already discussed (Section 56) resulting from large-scale production there are special advantages which pertain to combinations. One consideration favorable to the trusts is that after the first step separating the individual firm from the corporation with a salaried president or manager has been taken, there need be no increased loss of efficiency as the business grows. Since reliance for the direction of the enterprise must be put in any case in salaried employees, it makes little difference whether these employees are few or many. An able president may hold the managers of the individual plants over which he has general supervision to as strict account

for the efficient performance of their duties as that to which the directors hold him himself. The larger the enterprise the larger is the salary which it can afford to pay to its responsible manager and the abler the manager whose services it can command. It follows, it is claimed, that instead of losing in efficiency on account of its size, a trust gains in efficiency. The truth of this contention depends obviously upon whether the higher salary paid by a trust to its chief executive really secures a higher grade of ability. The three combinations which have succeeded most brilliantly have, undoubtedly, been directed with remarkable skill and foresight. They have devised plans for securing the loyal co-operation of their thousands of employees, and have selected for important positions the best men to be had for the tasks assigned them. The phenomenal success of the Carnegie Steel Company before it was merged into the Steel Trust furnishes an example of what may be achieved through organization. As the result of thought and experiment, Mr. Carnegie and his associates devised methods by which every employee in every department of the business, from highest to lowest, was made to feel as keen an interest in the result of his day's work as though he were to be the sole beneficiary from it. High wages and salaries were paid, and the prospect of still higher remuneration was held out to all who could increase their productiveness. The result was a business which, in spite of its huge proportions—its earnings were \$70,000,000 in a single year—compared in efficiency in every department with any other enterprise, large or small, to be found in that branch of industry. But the same circumstances that enable efficient chief executives to contribute so largely to the success of trusts increase the power for injury of inefficient managers. The presidents of the highly successful trusts have been willing to devote their unusual abilities to the great enterprises with which their names are identified because these

were, in a real sense, *their* enterprises. The services of such men cannot be secured by the mere payment of high salaries. It is here that a serious obstacle to the permanent success of great industrial combinations is encountered. The few men who have the ability to direct such vast enterprises are increasingly in demand, and the chance that a board of directors which has chosen a president wisely once will do so every time the office has to be filled, is small.

A more constant advantage of trust organization is economy in connection with the sale of products. A large part of the expenditure for advertising, traveling salesmen, etc., necessary to success in competitive businesses, is necessary simply because of the competition. The sale of whisky and tobacco, for instance, is probably not increased materially by the hundreds of thousands of dollars expended annually on advertising. The sale of particular brands, however, is increased. A combination which unites all of the plants producing different brands under one management dispenses with the need for competitive advertising. The more complete the monopoly of the combination the more fully, obviously, it may economize in this department of its business. The testimony in regard to the trusts obtained by the Industrial Commission of 1902 teems with illustrations of this species of economy. Other ways in which combination lessens expenses in selling goods were also brought out by different witnesses. Thus, the practice of giving premiums may be discontinued, as also that of granting credit to customers whose business standing is doubtful in order to retain their trade.

A third advantage, especially in connection with trusts producing bulky articles, is a saving in cross-freights. An officer of the American Steel and Wire Company told the Industrial Commission that his company saved, by having plants at different points, at least \$500,000 a year on its freight bill. This advantage does not apply, of course,

as against local competitors who aim to secure merely the local market.

A fourth advantage is that trusts can adjust the output of their plants to the irregularities of the market better than smaller producers. Not only are they in a position to get a broader view of market conditions, but they may organize their different plants so that those in the smaller places, where the labor supply is less steady and reliable, may be run continuously, while those in large cities may be run or shut down as the conditions of the market demand. Thus, the American Sugar Refining Company is said to use its Brooklyn refinery as a sort of safety valve to its business. When the demand for sugar is active and the trust is understocked, its rate of production can be largely increased at very short notice by running this refinery at top speed. In the face of adverse conditions a curtailment of production is equally easy.

Among minor advantages claimed for the trusts is the ability to satisfy the different tastes of consumers by offering a varied stock of goods. This is believed to have been an important circumstance in connection with the success of the American Tobacco Company. A similar advantage is ability to supply on demand a practically unlimited quantity of any good. It is stated that the American Sugar Refining Company is able at times to get one-eighth of a cent a pound more for its sugar than its competitors because jobbers prefer to order where they can be sure of securing at once all that they require. These various advantages which contribute in greater or less degree to the success of the trusts may be called legitimate, because they enable the trusts to perform the same services for the public more cheaply than could competing independent companies.

**210. Illegitimate Advantages of the Trusts.**—Critics of the trusts charge them with three lines of policy that are squarely opposed to the general interest and therefore

illegitimate. They are said to have obtained discriminating rates from the railroads in defiance of the Interstate Commerce Act, to have taken advantage of their national position to cut prices at certain points in order to stifle competition while recouping themselves by maintaining prices at non-competitive points and finally to have made unfair contracts with jobbers and retailers under which the latter boycott the products of independent producers.

The trust which has been most widely accused of securing special favors from the railroads is the Standard Oil Company. That such favors were commonly enjoyed prior to the enactment of the Interstate Commerce Act is admitted even by officers of the Company. An exhaustive report on the *Transportation of Petroleum*, published in 1906 by the Commissioner of Corporations, indicates that similar favors, disguised in various ways, continued to be extended by the railroads down to the very time that his investigation was made. In addition, the large scale of its operations gives the Standard Oil Company many special advantages over its competitors. In the first place it has secured control of most of the important pipe lines conveying crude petroleum from the wells to the points where it is refined. In its management of these pipe lines it is now restrained by the law which requires common carriers to accord equal treatment to all shippers, but it is claimed that prior to 1906 when this change in the law was made, it persistently discriminated in its own favor. It is so much cheaper to pipe oil than to ship it by rail that control over the pipe lines has given it a marked advantage over its competitors in many of the most important markets of the country. Again, in consequence of the large scale of its operations the Standard Oil Company is able to maintain a full equipment of tank-cars, receiving tanks and tank wagons and it is alleged, although it cannot be said to have been proved, that the tank cars of the Company have sometimes been underbilled so that the actual has been consider-

ably below the nominal rate. Obtaining discriminatory freight rates has recently been proved against the Sugar Trust also. In fact enough evidence of discrimination in favor of the trusts has come to light to make it certain that this was one of the important factors in their success prior to 1906. Now that the new law has effectively put a stop to such discrimination competition between the trusts and their smaller rivals is for the first time on fair terms so far as railroad transportation expenses are concerned.

Equally definite evidence is forthcoming in reference to the second charge, that is, that the trusts cut prices in local markets to kill competition, while they maintain or raise them in markets where there is no competition. The Industrial Commission made an exhaustive inquiry into the wholesale and retail prices paid in different towns in different parts of the United States for petroleum, sugar and baking powder. As a result of this inquiry it seems to be established beyond question that the Standard Oil Company charges different prices for the same product at different points, depending upon the intensity of competition. Inquiry in reference to the price-making practices of the other trusts was less conclusive. Direct interrogation of some managers indicated, however, that the practice of making special prices to fit special localities was not only common, but that it was looked upon as entirely proper and defensible. Since it is certainly the policy best calculated to advance the business success of the trusts and since it has only recently been expressly condemned in any jurisdiction, it would really be matter for surprise if the practice were not widespread.

The third charge, that is, that some of the trusts constrain jobbers and local dealers to boycott other products, cannot be said to be proved in any large number of cases. This is probably due, however, to the difficulty of getting the interested parties to testify, rather than to the infrequency of such practices. Two cases were investigated at

some length by the Industrial Commission. It was claimed, and admitted by an officer of the company, that the Eastman Kodak Company, acting as agent for the General Aristo Company, sold the goods of the latter association at a 15 per cent trade discount and an additional discount of 12 per cent to dealers who handled only such goods. It was even admitted that the Eastman Company would probably not sell to dealers handling rival products. The other case was that of the Continental Tobacco Company, which was charged with forbidding retailers who handled its brands of tobacco from dealing in other brands. It may readily be seen how a company controlling a large number of the favorite brands of a commodity like tobacco might, by pursuing this policy, prevent the public from acquiring a taste for other brands. As regards commodities which are to a less extent matters of taste, limiting dealers to trust products might not be of any particular aid to a trust in preserving its monopoly.

It needs no extended argument to prove that a trust resorting to the kinds of competition described above may make its position well-nigh impregnable, so long as its competitors are widely scattered over the country and prevented by distance and fear of complete extermination from uniting effectively to oppose the common enemy. Such practices are as demoralizing in their influence upon business and the standards of business morality as are discriminations on the part of the railroads of the country, and like the latter they should be prevented at whatever cost to the Government.

**211. The Tariff and the Trusts.**—The view expressed in the late H. O. Havemeyer's striking phrase, "the protective tariff is the mother of the trusts," suggests another possible advantage enjoyed by these combinations. His argument was that the higher duties charged on many products in the tariffs of 1883, 1890 and 1897 permitted a margin of profit to domestic producers which encouraged

a reckless duplication of plants and ruinous competition. To escape the latter, trusts were organized. If the tariff had not assured immunity from foreign competition, no one would have cared to embark his capital in them. Once established, as a result of the artificial conditions created by the tariff, the trusts enjoy advantages over their competitors whenever that tariff is changed, through their more intimate acquaintance with what is going on in Washington and larger capital with which to take advantage of the changes that are foreseen.

That some of the trusts in the United States have been encouraged and fostered by the protective tariff few will deny. It is even probable that some of them have grown up in industries which would not have flourished at all but for the tariff. Others, doubtless, would not have been established had not the tariff been high enough to protect them from foreign competition. At the same time it is equally certain that many of the trusts have been organized in industries that are in no wise dependent upon the tariff. Some of the latter, notably the Standard Oil Company, have enjoyed greater success for a longer period than any of the tariff-made trusts. If further proof of the independent origin of trusts is needed it may be found in free-trade England, where trusts are common although undoubtedly less numerous than in the United States. Mr. Havemeyer's dictum ought probably to be changed to the statement that "the tariff is the mother of some trusts." Wherever such maternity can be established a modification of the tariff may prove a sufficient means of control, but it is also true that some of the tariff-made trusts have outgrown their leading-strings and have now little to fear from foreign competition.

**212. Other Evils Charged Against the Trusts.—** Among other evils charged against the trusts, three merit special attention: they are overcapitalized; they exert a corrupting influence on our political life, and they demand

excessive prices for their products. Abundant evidence has already been given (Section 207) of the tendency to overcapitalization. Trust organizers themselves do not deny that the combinations are capitalized often for two or three times the value of the tangible property which goes into them, but they justify such overcapitalization on the ground that, in addition to this tangible property, there are patents, the good will of the business and the probable appreciation of certain kinds of property, such as mineral lands, to be considered. In their opinion the proper basis of capitalization is not tangible assets but earning power. Others go even further. Frankly admitting the overcapitalization complained of, they take their stand on the proposition that overcapitalization injures no one. They argue that it is indifferent whether the nominal capitalization of a business is \$1,000,000 or \$2,000,000. If in the former case its stock is quoted at par, in the latter case, they assume, it will be quoted at 50 per cent of par, and the only result will be that two shares are regarded as one share would have been, had the capitalization been more conservative. Such apologists for overcapitalization overlook important aspects of the question. While it is true that if all of the facts in the case were known to all of the parties interested, it would make little difference what the nominal capitalization might be, this is far from true when, as is usually the case with the trusts, knowledge of the essential facts is confined to a small group of directors. At least three evils may be traced to overcapitalization. It leads to the wholesale swindling of the investing and speculating public which still believes, in spite of many sad experiences, that the par value of stock bears some relation to its real value. It invites the deception of officials charged with the enforcement of tax laws. When nominal capitalization throws no light on the value of corporate property for purposes of taxation, there is every opportunity for those interested to deceive assessors

as to the real value that ought to be taxed. Finally, it encourages mismanagement on the part of the company itself. However much the stock of a company may be watered, it is but natural that its responsible officers should desire to pay dividends. In the effort to perform this often impossible task they are apt to adopt lines of policy of which they would not have thought had the business been conservatively capitalized and only reasonable earnings demanded of it. In the case of the trusts such mismanagement has injured the public as well as stock-holders in the enterprises affected.

The second evil, that is a corrupting influence on political life, is by no means confined to the trusts, but with them it assumes special significance. Trust managers have been accused of influencing legislation through contributions to campaign funds, of securing the election or appointment of officials favorable to their interests, of bribing attorneys general to refrain from enforcing anti-trust acts and even of corrupting courts charged with the interpretation and enforcement of adverse laws. Proof of these accusations is rarely forthcoming, but this is believed to be rather because those possessing such proof have every interest to withhold it than because the accusations are altogether unfounded. As the control of the trusts and the railroads of the country comes to be concentrated in fewer and fewer hands, their corrupt political influence is only too likely to increase unless vigorous steps are taken to curb it.

The claim that the trusts charge excessive prices for their products is also difficult of direct proof. So many and such diverse influences affect the prices of commodities that it is almost impossible for those unfamiliar with every detail of the business concerned to judge whether a given price is or is not excessive. Notwithstanding these difficulties, an interesting investigation into the influence of the trusts on prices was made by Professor Jenks on behalf

of the Industrial Commission. His conclusions were, on the whole, distinctly adverse to the contention of trust apologists that they reduce prices in consequence of the great economies they are able to realize. In the most notable instance of lowered prices under trust management, that of refined oil, it appeared that the reduction was less, on the whole, than the decline in the price of crude oil, and consequently that the margin retained by the trust to cover its expenses of production and profit was larger than it had been before the trust was organized. The dividends paid by the Standard Oil Company afford indirect support to this conclusion. Another case carefully investigated was that of refined sugar. Here it appeared that the margin between the price of the raw and the refined product fluctuated, but that, on the whole, the margin was reduced only as competition on the part of independent refiners became severe, and that as soon as a new combination was effected it was increased so as to afford larger profits to the Trust. Inconclusive though the above evidence is, its trend harmonizes with what was to be expected on general principles. The trusts are organized for profit. One of the advantages claimed for them by their promoters is control over prices. To the extent that they exercise monopoly powers, self-interest will lead them to obey the principles governing monopoly price. When economies in production do really result from their form of organization, they may find it advantageous not to raise prices, or even to lower them somewhat, in order to enlarge the volume of their sales, or to discourage competition. They will not, however, find it to their interest to lower prices to a point which deprives them entirely of monopoly profit, as competitive businesses are forced to do by the stress of competition. It may be concluded that the desire of the trusts is to maintain prices at a monopoly level, and that if they fail to do so it is because they have not the monopoly powers claimed for them by their organizers. What the

effect of trusts generally upon prices may be is thus bound up with the question as to whether the trusts generally succeed in actually controlling the branches of production in which they are organized, or whether they prove to be promoters' enterprises, which make little real difference in the competitive situation. It is quite clear from the earnings of some of the trusts that they have maintained prices comfortably above their expenses of production. The small earnings of others are equally eloquent proof of their failure to control the prices on which their success depends.

**213. The Constitutional Obstacle to Legal Regulation of the Trusts.**—Attempts to correct by means of legislation abuses charged against the trusts have encountered a familiar obstacle in the United States—constitutional limitations on the legislative power. Under the American form of government control over industrial enterprises is shared between the Federal and the State governments. The Constitution of the United States provides that Congress shall have control over commerce among the States. In interpreting this clause, the Supreme Court has defined interstate commerce as “intercourse and traffic between the citizens or inhabitants of different States,” including “not only the transportation of persons and property and the navigation of public waters for that purpose, but also the purchase, sale and exchange of commodities.” It has further held that a failure on the part of Congress to regulate such intercourse and traffic in a particular way is to be taken as a declaration that such regulation is deemed inexpedient, and that the States are therefore debarred from interference. With equal definiteness the court has indicated what is not included in interstate commerce. It has said very clearly that the business of manufacturing, among other things, is not so included. As a consequence of the interstate commerce clause of the Federal Constitution, and the interpretation given it by the

Supreme Court, a peculiar situation has arisen. Congress has been unable to exercise any efficient control over the trusts because their primary purpose is manufacturing, and the interstate commerce in which they are engaged can be so carried on as to evade any prohibition yet devised, except such as would act as a serious check upon business generally. The States, on their side, have full power to control the trusts as manufacturing corporations, but may not interfere with any interstate commerce in which they are interested. Thus a State can prevent a corporation, organized as a trust, from carrying on manufacturing within its limits, but it cannot prevent a corporation having its plants in other States from shipping its goods to dealers within the first State and selling them, as the latter would be an interference with interstate commerce. Under these circumstances, effective control of the trusts by the States can only be secured when all are ready to unite on similar laws having this object in view. Up to the present time little progress towards such united action appears to have been made. As an offset to the drastic anti-trust laws of some of the States, others and notably New Jersey, Delaware, Maine and West Virginia, have deliberately liberalized their corporation laws so as to afford an asylum for the trusts for the sake of the large revenue that is to be obtained from them. Before considering the ways in which the country may hope to free itself from this dilemma, something should be said of the common-law aspects of the question.

Legal basis for a certain amount of control over the trusts is found in the common law. It has long been held that certain "contracts in restraint of trade" are unenforceable at law and that "monopoly" itself is unlawful. Historically, "a contract in restraint of trade," in the legal sense, is a contract under which one party undertakes not to engage in a certain occupation under certain conditions. Not even all such contracts are unlawful, and

but for the fact that American courts are inclined to stretch the phrase so as to include under it all contracts having monopoly as their object, the prohibition would have little significance for the trusts. The phrase "monopoly" has also, regarded historically, a restricted meaning. It denotes exclusive privileges confirmed by charter, or "legal monopoly." Here, again, American courts have shown a tendency to break away from the historical meaning of the word and to use it in its proper economic sense. Although there is some difference of opinion among judges as to the scope of the common-law prohibitions against contracts in restraint of trade and monopoly, the tendency seems clearly to be to extend these terms to the more objectionable practices of the trusts. Many go so far as to maintain that the common law furnishes a complete remedy for the trust problem so far as the trusts present a problem.

**214. Anti-Trust Legislation.**—Anti-trust acts were passed in Kansas, Maine and Michigan in the year 1889. Congress followed in 1890 with the so-called "Sherman Anti-Trust Law." Other State legislatures were not slow to fall in with the precedents so established, and at present more than thirty of the Commonwealths have anti-trust acts on their statute books. Some of these, like the Illinois Act of 1893, have been declared unconstitutional on the ground that they impose undue restraints on personal liberty. The Federal Anti-Trust Act declares specifically that "every contract, combination in the form of a trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations," is illegal, and that "every person who shall monopolize, or attempt to monopolize, or combine, or conspire with any other person or persons to monopolize any part of the trade or commerce among the several states or with foreign nations, shall be deemed guilty of a misdemeanor." This prohibition, although intended to prevent industrial

combinations, has been so interpreted by the courts that it has not thus far (1908) been applied to any of those organized as single corporations or holding companies. Suits are now pending, however, against the Standard Oil Trust, the Tobacco Trust and other industrial combinations and it is possible that the selling aspect of the business of these great combinations may be so impressed on the courts that they will adjudge them guilty of violating the Federal act and order their dissolution. The outcome of these suits must be awaited with keen interest by all students of the trust problem as it will have a decisive influence on the future of the movement in the United States.

The anti-trust acts of some of the States have been even more sweeping in their condemnation of combinations than the Federal statute. If literally interpreted, some of them would, as has been well said, prohibit the most ordinary forms of business contracts. They proceed on the assumption that combination is contrary to public policy and attempt the impossible task of restoring the world to that stage of industrial development in which every producer was independent, and a competitor of every other producer. Fortunately the courts have not attempted literal enforcement, but in their efforts to give such acts a reasonable interpretation they have deprived them of much of their significance. The experience of Texas, which succeeded in excluding the Standard Oil Company as a corporation only to have one of the paid agents of the latter come in, nominally as a private individual, and secure a large interest in the Beaumont oil field, is fairly typical of that of other States. It is the sober conviction of most students of trust legislation that the attempt of the States to suppress the trusts must prove futile. Armed with New Jersey charters, the trusts have been able, by fair means or foul, to maintain themselves in most markets against the most stringent anti-trust acts. In the light of this experience, the opinion is becoming general that the

solution of the trust problem lies not in repression, but in national regulation.

**215. The Bureau of Corporations.**—An important first step in the direction of regulation was taken by Congress when it established, as a part of the new Department of Commerce and Labor, a Federal Bureau of Corporations (Act of February 14, 1903). This Bureau and the Commissioner at its head are charged “to make diligent investigation into the organization, conduct and management of the business of any corporation, joint stock company, or corporate combination engaged in commerce among the several States or with foreign nations, excepting common carriers, . . . and to gather such information and data as will enable the president of the United States to make recommendations to Congress for legislation for the regulation of such commerce.” Although this Bureau has been in operation but five years, it has already gone far towards justifying the belief that the most effective remedy for unfair methods of competition is publicity. Its investigations and reports were a potent influence in bringing about the important amendments to the Interstate Commerce Act which have resulted in the entire suppression of discriminatory practices on the part of the railroads. Moreover it is collecting the information which will be indispensable to the carrying out of a positive policy of trust regulation, whenever such a policy shall be initiated.

**216. Plans for Obtaining Legal Control over the Trusts.**—Under the system of divided powers created by the Federal Constitution, three possible ways of dealing with the trusts appear to be open. The plan which, if feasible, would be most certain to attain the desired object would be for Congress and the State legislatures to enact concurrent laws which would subject both the commercial and the manufacturing aspects of these businesses to similar restrictions. As already suggested, little progress has as

yet been made in this direction because of the diverse interests which the different States have in the trusts. It may be dismissed as impracticable. A second plan for dealing with the trusts is to leave their regulation entirely to the States. Congress has power to control interstate commerce, and may, therefore, it is held, delegate such control to the State legislatures. If armed with full power over industrial combinations, the States, it is claimed, would be able to solve the trust problem independently. This proposal is open to the same objection as the preceding plan, and is also distinctly retrogressive. One of the chief reasons for assigning to Congress control over interstate commerce was experience of the narrow and selfish policies the States pursued so long as such control was left to them. To return to this condition of affairs, even with respect to the trusts, would be unendurable. On these grounds this plan, also, may be dismissed as inadequate.

Alternative to the proposal to vest exclusive control of the trusts in the State legislatures is the third plan, that of giving such control to Congress. This might be accomplished, of course, by constitutional amendment, but it is generally agreed that, at least for the present, an amendment having this object in view would have little chance of enactment. In lieu of this direct method, Congress might obtain control over the trusts by forcing them to incorporate under a Federal statute in which were prescribed such conditions as were deemed desirable. The powers under which Congress might legally compel the trusts to become national corporations are various. It might declare that no corporation without a Federal charter could engage in interstate commerce. Even the ingenuity of corporation lawyers would find it difficult to evade such a prohibition as regards some phases of the business in which every trust is engaged. If this policy seemed too drastic, it might impose a prohibitive tax upon the interstate traffic of State corporations, as was done to force State banks issuing

notes to become national banks. Or it might make incorporation under the Federal statute a condition to the enjoyment by a corporation of the protection of the patent laws, which is an important privilege to most of the trusts. Finally, it might proceed against State trusts as it proceeded against lotteries, by forbidding to them the use of the mails. It can hardly be doubted that through one or other of these measures all corporations engaged in business which extended beyond the limits of a single State might be compelled to subject themselves to national regulation. The most serious objection to such regulation is that when it was once entered upon it could not stop until control over business relations, which in the American scheme of government has been vested in the States, was transferred almost in its entirety to Congress. Such a large proportion of the business of the country is now conducted by corporations and such a large proportion of the corporations extend their field of operations beyond the limits of a single State, that the policy considered would enormously increase the powers of Congress at the same time that it reduced to very low terms the powers of the States. Many persons shrink from such a radical departure from inherited traditions in reference to State rights and local self-government. Natural as is this feeling it must give way before the growing sense of national industrial solidarity to the conviction that businesses which are national in their scope must be regulated, if regulated at all, by national authority. Only in this way, it is believed, can the best interests of the whole people be safeguarded. This last plan of regulation appears, therefore, to be the only one that is both practicable and adequate to the situation.

Assuming the trusts to be brought squarely under Congressional control, as are the national banks and the interstate railways, we must consider the regulations which ought to be applied to them. What these are was sug-

gested in what has been said of the illegitimate practices of the trusts.

The most important reform, that is, putting a stop to railroad discrimination in favor of the trusts, appears to have been accomplished already by the legislation of 1906. The second reform called for, preventing discriminatory practices on the part of the monopolistic trusts themselves, might be brought about by making unfair methods of competition in general unlawful and leaving it for the courts to decide, on the basis of information collected by the Bureau of Corporations, when unfair methods were used. Finally, contracts under which dealers were required to boycott other than trust-made goods should also be prohibited, and machinery should be created for making such prohibition effective. Through these measures unfair competition, which has too often characterized the practices of the trusts in the past, might, it is believed, be suppressed.

In addition to bringing the trusts squarely under its control and putting an end to unfair methods of competition, it would be highly desirable for Congress to revise the tariff so as to subject monopolistic combinations to the wholesome stimulus of foreign competition. Such changes are especially called for in the case of trusts which have secured control of the important sources in the United States of the raw materials which they use, as have, for example, the United States Steel Corporation and the International Paper Company. These businesses have many of the characteristics of natural monopolies so long as they are protected from foreign competition, and for this reason to withdraw the protection of which they are the beneficiaries would seem to be along the line of sound public policy.

**217. The Future of the Trusts.**—The general uneasiness excited by the growth of the trusts during the earlier years of the movement has, in the light of experience, some-

what abated. It is now recognized that the trust form of organization is adapted to rather a limited number of businesses, and that only in a few cases can combination actually succeed for any length of time in suppressing competition. At the same time, the reasons for the success of those trusts which have succeeded are coming to be more generally understood and public opinion is being educated to discriminate between the legitimate and illegitimate practices of the combinations. The future of the trusts in the United States depends very largely upon the promptness with which unfair methods of competition are prevented. If effective measures are taken to prevent rate discriminations on the part of the transportation companies and price discriminations and unfair contracts with retailers on the part of the trusts themselves, it is believed that the movement towards combination will be checked, and that such combinations as continue to be effected will have back of them reasons not opposed to public policy. For behind the trust movement are more solid and creditable motives than the activity of unscrupulous promoters and the monopoly hunger of greedy manufacturers. The economies of combination are in many cases both real and substantial and a public policy that opposes all forms of combination is as unenlightened as it must in the long run be futile.

The most effective weapon wielded by the public for dealing with the trusts, as with other actual and potential monopolies, is the consumer's power to substitute other goods for those which the trusts enhance in price. As consumption and processes of production become more varied in their range, this power acquires wider scope. It already effectually precludes excessive profits to any very large number of businesses and limits the monopoly problem to those few services and commodities which remain indispensable to civilized existence, such as transportation facilities, coal, iron, petroleum, salt, sugar, etc.

As time goes on, invention and discovery may still further narrow the list of such articles and services, but probably never to such an extent as to make the monopoly problem one of little importance to the economist.

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## CHAPTER XXIII

### PLANS OF ECONOMIC REFORM

**218. Four Plans of Economic Reform.**—The industrial system which has been described and analyzed in the preceding chapters leaves much to be desired. In proceeding now to consider different plans for its reform, we shall confine our survey to the four proposals that seem, at the present time, to merit most serious attention, that is, profit-sharing, labor copartnership, land nationalization and socialism.

**219. Profit-sharing.**—One defect charged against the present industrial system is that workmen, upon whose labor and fidelity the success of business undertakings so largely depends, receive no share of profits. Wages constitute usually their sole compensation, irrespective of the gains of the entrepreneur who employs them. To give workmen a keener interest in their work various expedients have been devised, all of which may be described as forms of profit-sharing.

One of the simplest methods of profit-sharing is that which causes wages to vary on a sliding scale with the price of the product. This has long been common in the mining and iron and steel industries of Great Britain, and is not unusual in the same industries in the United States. It is, however, open to grave objections, unless standard rates of wages are established as a minimum below which earnings are not to be depressed, no matter how low the price of the product may become. In every branch of industry prices are subject to variation and tend at times to fall below the normal expenses of production. The

force which is relied upon to restore them at such periods is the unwillingness of entrepreneurs to continue production at a loss. Under the sliding-scale system, wages, a principal item among the expenses of production, fall as prices fall. The consequence may be that entrepreneurs can still produce at a profit even when the price is too low to afford a fair return to wage-earners. Under such circumstances the force relied upon to restore prices is removed and they may for some time remain below the level which permits a fair competitive return to all parties. A sliding-scale method of remuneration, which has not as its basis minimum wages, is thus a menace to the permanent well-being of the wage-earning class. Another objection to the sliding scale is that it assumes a constancy of relation between the price of the product and the amount of the profits that does not in fact exist. Thus, anthracite coal-mine owners in the United States objected to the application of the system to that industry by the award of the Strike Commission already referred to (Section 165) on the ground that their expenses of production were growing each year heavier as the mines grew deeper, and that higher prices in the future would add nothing to their profits and consequently give rise to no fund to be shared with their employees. Whether this position was justified in this particular case or not, there can be no doubt that changes in prices are too inaccurate indices of changes in profits to permit the extension of the sliding-scale system to many branches of business.

A less objectionable, if more complex, method of sharing profits is for the entrepreneur to appraise his own services as worth a certain wages of management and to agree to distribute all profits above this sum to his employees—including himself as salaried manager—in proportion to the wages which they respectively receive. Such a distribution of profits, if fairly carried out, offers the highest incentive to all employees to contribute their maximum to the

success of the business. If anything, it errs on the side of being overgenerous to workmen, since they are guaranteed their wages whether there are any profits to distribute or not, whereas the wages of management of the entrepreneur can be paid only when profits equal at least to this amount have been realized. To obviate this difficulty it has sometimes been attempted to scale down wages proportionately when losses result in businesses which have adopted the practice of sharing profits. Logical as such a plan may seem, it is open to the fundamental objection that it makes workmen suffer for the mistakes of their employers. So long as employees have no voice in the management of the business in which they are engaged, they may rightly demand standard wages. If the employer is willing to offer them in addition a share of his profits, they should and usually will show their appreciation by attending more carefully to his interests. They should not be asked to share losses, however, as this would interfere with that elimination of unfit employers upon which progress so largely depends.

Besides the plans for sharing profits described above, there are dozens of others of varying degrees of complexity. In mercantile trade it is not unusual to compensate salesmen with a certain percentage of their gross sales in addition to their salaries. Corporations are increasingly in the habit of paying bonuses to their employees out of the profits of each year's business. Several of them have introduced elaborate plans, such as that of the United States Steel Corporation, for selling stock to their employees on favorable terms and paying them a premium in addition to the usual dividend on condition that they retain the stock and with it an interest in the success of the enterprise. Some of these plans have been adopted upon humanitarian grounds, but most of them are simply enlightened expedients for increasing the interest which hired workmen feel in the quality and quantity of their work.

Modern business is a vast system of co-operation, and the principal criticism, from the point of view of production, that is to be urged against it is that the co-operation is so often grudging and half-hearted. Profit-sharing is a device for bridging over the gulf between employers and employees by making the incomes of both depend directly upon the amount of profits. When adopted as a supplement to the payment of wages at standard rates it merits only commendation. It increases the productiveness of labor by giving workmen a livelier interest in the results of their toil. It adds to wages and thus permits workmen to attain to higher standards of living at the same time that it facilitates the accumulation by them of capital. Finally, it renders the relations between employers and employees more cordial, and in this way prevents strikes and lockouts. Those who object to profit-sharing do so on the ground that it is a mere palliative, when what is needed is a radical change in the present industrial system. To judge of the soundness of this criticism we must pass to a consideration of the other plans of economic reform.

**220. Labor Copartnership or "Co-operation."**—Labor copartnership, or "co-operation," as it is more commonly called, goes a step further than profit-sharing by making workmen partners in the businesses in which they are employed. It is a plan for dispensing with the services of the entrepreneur, or the risk-taker, and substituting for him a group of partners who both direct and carry out the undertakings in which they are engaged. Up to the present time labor copartnership has succeeded best in connection with trade, and especially retail trade. A brief description of its development in Great Britain, where it has enjoyed widest extension, will serve to introduce a discussion of its strong and weak features.

Successful labor copartnership in England may be said to date from the year 1844, when the famous Rochdale co-

operative store was founded by the twenty-eight "Rochdale pioneers." As the same form of organization has been adopted by other co-operative stores in all parts of Great Britain since, a brief description of this store may be given. The needed capital was obtained by the issue of £1 shares to subscribing members, and on this investment five per cent interest was regularly paid before profits were divided. Anyone might become an ordinary member on the payment of one shilling and was then entitled to trade at the store and receive a share of the profits *proportionate to the amount of his purchases.* The prices charged were about the same as those asked for similar goods in other stores and cash payments were required. Thus the advantage to the purchaser was the receipt every quarter of his share of the profits and the assurance that he was not being cheated in reference either to the quality of the goods bought or their prices. From a very small beginning the Rochdale store has grown to be a great enterprise, with thousands of members and hundreds of thousands of capital. It has even launched out into other fields than retail trade, as several manufacturing enterprises are now run in connection with the store and its branches. There has been but one flaw in this development, and that is the abandonment by the Society of any pretense of dividing profits with employees. Its relations with the latter are like those of an ordinary business corporation, the co-operative feature being limited strictly to customers.

The remarkable success of co-operative retail stores modeled after the Rochdale experiment emboldened the leaders of the movement to establish in 1864 the English Co-operative Wholesale Society for the purpose of buying jointly for retail co-operative stores on more favorable terms than they could secure by dealing with ordinary wholesalers and jobbers. The Wholesale was a success from the very start. By 1901 it had a membership of

over 1000 retail societies and a capital of nearly £2,500,000, while its sales amounted to more than £7,500,000 and its profits to nearly £335,000. From buying its goods by wholesale from other manufacturers the Society soon passed to manufacturing for itself upon an extensive scale. It is now engaged in the manufacture of biscuits, cocoa, butter, preserves, sweets, boots and shoes, soap, candles, woolen goods, ready-made clothing, flour, lard, furniture, shirts, mantles, underclothing, etc., and it does its own printing and that of many of its members. In its management of its manufacturing establishments, it, too, has pursued the policy of the ordinary business corporation. It pays good wages, but it accords to its employees neither voice in the direction of the enterprises in which they are engaged nor share in the profits. This fact must not be overlooked when the success of the English Wholesale Society is cited as proof of the possibilities of labor copartnership.

In 1868 the Scottish Co-operative Wholesale Society was launched on the model of its English predecessor. Its managers two years later introduced a profit-sharing feature, which has been retained ever since and to which the superior success of the Scottish Society is by some attributed. In 1901 the Scottish Society had over 600 members and a capital of over £1,500,000; its sales aggregated over £5,700,000 and its profits nearly £250,000. When it is remembered that the population of Scotland is less than one-seventh that of England the significance of these figures is evident.

**221. Difficulties in the Way of Successful Labor Copartnership.**—In contrast with this remarkable development of labor copartnership in Great Britain there are in the United States comparatively few successful co-operative experiments. In mining districts and in factory towns co-operative stores are not unknown and in farming regions, especially in the Middle West, co-operative cream-

eries are found, but taken altogether these experiments affect as yet but a small part of the business that is regularly carried on in the country. The reasons for this slight development are to be sought partly in the peculiar industrial conditions of the United States and partly in the circumstances that have confined the spread of labor copartnership, even in Great Britain, to trade and a few branches of manufacturing. Co-operative activity implies a certain degree of homogeneity of thought and feeling on the part of a population and this is, for obvious reasons, less developed in the United States than in the older countries of Europe. It also requires a willingness to incur a good deal of trouble for the sake of the petty economies that are to be realized from dispensing with the middleman in business, and American workmen have not yet reached the point when they are willing to take this trouble. As time goes on local and national obstacles to the progress of the movement will give way, but there will remain the circumstances that everywhere limit labor copartnership to a few industries.

Co-operative stores are able to succeed because the service they render is of a very simple character. They are sure of their customers. They may insist on cash payments and in this way avoid losses through unwise extensions of credit. They need little initial capital and can usually obtain this without difficulty from the savings of workmen themselves. Through the growth of co-operation in retail trade, the "co-operative wholesale" is made possible, and through it in turn certain co-operative manufacturing industries may be developed. The English Co-operative Wholesale Society has, as already remarked, failed to apply the principle of labor copartnership to its relations with the employees in its manufacturing departments, and the reasons for its policy are not far to seek. Successful manufacturing requires intelligent and progressive management and large capital. Work-

men rarely appreciate the importance of the first or are in a position to supply the second. The consequence is that only in exceptional cases does labor copartnership succeed in manufacturing. When the capital is forthcoming, there is almost certain to be before long a disagreement in regard to the business management. As submission to the judgment of the salaried manager must, in the nature of the case, be entirely voluntary, disagreement is only too apt to lead to insubordination and disruption. Even when capable managers are secured, therefore, efficient control of a labor copartnership can hardly be maintained for any great length of time. But the chances are strongly against securing efficient managers because the workmen partners usually object to paying sufficiently high salaries. The difficulties in the way of securing capital for enterprises which require—as do many branches of manufacturing—investments of more than \$1000 for each employee are even more serious. Few workmen have so much to invest, and those who have are likely to be particularly timid about risking it in untried fields. On the other hand, few capitalists care to lend their savings to labor copartners.

Labor copartnership is an admirable substitute for the competitive system whenever and wherever it can succeed. It appeals to higher motives than mere self-interest and its influence upon the characters of those who engage in it is broadening and ennobling. As time goes on its extension to ever wider fields may be confidently hoped for, but such extension must necessarily be gradual. All of the conditions upon which its successful operation depends—a fuller appreciation by workmen of the value of the services of business managers and organizers, a willingness on their part to take orders from bosses of their own choosing and finally an accumulation by them of capital—must be of slow growth. This does not lessen in the least the importance of labor copartnership as a plan of economic

reform, but it shows the extent to which the present industrial system is adjusted to the character and attainments of the average man of the present day and emphasizes the truth that it can be displaced only as the average man is raised to a higher plane of thought, feeling and efficiency.

222. Land Nationalization.—Profit-sharing and labor copartnership are plans of reform that may be and have been introduced without any change in law or in the functions of the state. Their extension depends upon purely voluntary methods, and their success may be gaged by their ability to hold their own in competition with other forms of business organization. Quite different is land nationalization, the plan of reform now to be considered, since it proposes a fundamental change in the present industrial system, the abolition of private property in land. The grounds for this proposal have already been suggested in the analysis of production presented in earlier chapters. As there shown, one of the factors in the creation of wealth is land and the natural powers associated with it. These are, broadly speaking, gifts of nature to man whose services contribute a share to the value of the product distinguishable in thought from the shares due to labor and to capital. In return for these services the income which we have called rent is paid to landowners. In the view of advocates of land nationalization this income is "unearned" by the private landowners who receive it and ought in justice to be diverted to the use of the whole community, either by means of taxation or through the outright expropriation of land by the Government. In order to determine the merits of this plan of reform we must consider the grounds which have, to the minds of thoughtful persons, justified the system of private property in land for so many centuries and the results that would be likely to follow such a radical change as that proposed.

Private property in land was adopted in Great Britain

after centuries of experience of a kind of communal ownership. The latter was found to be deadening to enterprise and progress because it compelled the adoption of uniform methods of cultivation by the members of each rural community and because it offered no adequate incentive to those large plans of improvement, such as the draining of marshes and the introduction of artificial fertilizers, to which English agriculture has owed so much. It is true that the system has had its dark side in that the transition to it afforded an opportunity for much fraud and injustice, and in that it has resulted in the formation of great hereditary estates owned by absentee landlords. Even with these drawbacks, however, it is believed that the introduction of private property in land has resulted in national gain, and if measures had been taken, as they might easily have been, to prevent these evil results, the beneficence of the change would not admit of question.

Even without the precedents established by European countries, it is highly probable that the early settlers of America would have adopted private property in land as the only system adapted to the conditions of a new country. To attract colonists it was necessary to offer them every inducement. Guaranteeing them in the ownership of such land as they were able to reclaim from the wilderness and defend from the Indians seemed a small enough return for the hardships and privations which they were required to endure. Of course land was also secured at times on terms that had little regard to the general interest, but, on the whole, the results of the system have abundantly justified it. The liberal land policy which the country has pursued from the earliest period has been a chief factor in the rapid settlement of the American continent. Unwise as it has undoubtedly been in some of its details, it can hardly be questioned that it has been, in its main features, sound and beneficent.

223. **The Present Land Problem.**—An historical justification of private property in land is quite a different thing from a demonstration that the system must endure until the end of time. At some period it is quite certain that this system, like others that preceded it, will cease to be adapted to industrial conditions and will need to be modified, if the best interests of society are still to be served. We have now to weigh the truth of the claim of advocates of land nationalization that this period has already come for the countries of the Western World.

The principal advantages of private property in land are realized only when the owner is at the same time the occupier or cultivator. Under these conditions self-interest insures in most cases the most economical and progressive utilization of the land attainable. When, on the other hand, the owner is an absentee landlord, who leases the land to the occupier or cultivator, it can make little difference whether he is the administrator of a private estate or an official of a well-organized government. In either case the actual use made of the land must depend upon the terms of the lease and the efficiency of the lessor. It follows that the suitability of the present system of private property in land to present conditions hinges largely upon the question whether absentee landlordism both in town and country is coming to be the rule or whether this condition is still exceptional.

Space will not permit an exhaustive analysis of the actual situation even in the United States, but a few facts may be mentioned as proof that in this country, at least as regards agricultural land, absentee landlordism is still exceptional and occupation and cultivation by the owner the rule. Thus, according to the census of 1890, 72 per cent of the 4,565,000 separate farms in the country in that year were operated by their owners. The percentage had decreased to 65 in 1900, but owing chiefly to an extension in the Southern States of the system of cultiva-

tion "on shares," which has the one advantage that it insures the owner's continued interest in the methods of cultivation practised by the tenant.

In towns and cities the situation is far less favorable to the present system of private property in land than in the country. Moreover there is reason to think that, especially in large cities, absentee landlordism is becoming more and more the rule, for the simple reason that more and more people are coming to live in tenement and apartment houses.\* If this is the case, there may be good ground for the contention that the system of private property in land is ceasing to serve any useful purpose in cities which the system of public ownership would not serve as well and that the time is ripe for a gradual transition to the latter.

**224. The Single Tax.**—The plan for diverting the income we have styled rent from private landowners to the Government that has attracted most attention in the United States is called by its advocates "the single tax," a name given it by its author, Mr. Henry George, in his widely read book, *Progress and Poverty*. Before we consider the practical aspects of the land question a few words should be said about this work and its proposal. Mr. George's avowed purpose in writing *Progress and Poverty* was "to seek the law which associates poverty with progress and increases want with advancing wealth," and in it he attempts to prove that this law results from the institution of private property in land, which, he believes, causes the benefits of progress to redound to the exclusive advantage of landowners. Diverting these benefits to the whole community by means of a "single tax" on land rent would, he thinks, "raise wages, increase the earnings of capital, extirpate pauperism, abolish poverty, give remunerative employment to whoever wishes it, afford free

\* Already in New York City but one family in nine owns its place of residence.

scope to human powers, lessen crimes, elevate morals and taste and intelligence, purify government, and carry civilization to yet nobler heights." The argument by which he arrives at this gratifying conclusion is too elaborate to reproduce in brief compass, and this is the less necessary because there is no evidence of the truth of the law for which he seeks an explanation and whose existence is vital to his whole contention. Poverty has undoubtedly persisted in spite of progress, but that it has increased with progress is directly contrary to the fact. Equally unwarranted is the assumption on which his conclusion rests that every improvement in productive power tends to increase rents. This could only be the case if the population of each country had an absolutely rigid standard of living and responded to every improvement by multiplying until the margin of cultivation was lowered to a point at which wages were no higher than before. If such were the fact, no real progress for the mass of the people would be possible under any industrial system.

Henry George's extreme claims, both as to the need for a radical remedy for present economic evils and as to the benefits that would result from his "single tax," were extravagant and unwarranted, but his proposal ought not to be dismissed on these merely negative grounds. The influence which *Progress and Poverty* has exerted over its hundreds of thousands of readers has been due, not to the novelty or profundity of its argument, but to the sincere desire to benefit humanity which so clearly inspired the author in its composition. The plan suggested should be considered in no meaner spirit, that is, with sole reference to its social utility.

**225. Objections to the Single Tax.**—Among the objections that may be urged against the single tax three merit particular attention: any *single* tax is undesirable; it would involve the wholesale confiscation of property; in practice it could be carried out only in such a crude and

approximate way that it would lose many of the merits claimed for it. The first objection would be unimportant did it not serve to show the extent to which belief in the single tax rests upon faith rather than upon reason. Henry George appears to have thought that there was a divinely ordained relation between the legitimate needs of government and the size of the rent fund, and that the last would always suffice to cover the first. This view overlooks the fact that the two are controlled by very different considerations. Of two cities of the same size and with the same aggregate rent roll, one might legitimately spend two or three times as much for public purposes as the other, if its citizens had developed to that degree superior appreciation of the importance of common needs. Even if admirable in all other respects, neither a rent-tax nor any other tax would be desirable as the *single* tax.

The next objection is more fundamental and applies to all plans involving the sudden diversion of land or the income it affords to the common benefit. Such policies amount to confiscation and can only be justified on the ground that they are essential to general well-being. For centuries the law has permitted the private ownership and enjoyment of land. Pieces of land have changed hands on the average dozens of times in the United States, and present owners have in most cases acquired them not as free gifts of nature nor as grants from the Government, but by paying for them, just as they have had to pay for other species of property. To deprive them without compensation of their lands, or what amounts to the same thing, of the income which these lands afford, would be to commit a monstrous piece of injustice. Such injustice might possibly be countenanced if there were any rational grounds for sharing Henry George's expectations as to the results of such a policy, but in the absence of such grounds it must be condemned in unqualified terms. A

state which would thus overturn an established institution, and confiscate by wholesale the property of its citizens, would lose the confidence of those citizens and be reduced to a condition of anarchy. Any increase in public revenue or reduction in other forms of taxation so secured would be bought at far too high a price.

The third and last objection to the single tax is administrative in character. Although the rent of land may be distinguished in thought from interest on capital invested in the land, it is often impossible to distinguish it in practice. As already pointed out, permanent improvements to land, such as draining marshes, or filling in hollow places or leveling down elevations to adapt lots for building purposes, become indistinguishable from the land itself. For the Government to appropriate the entire income from improved land would be for it to place a ban upon further improvements. For it to appropriate only the true economic rent would, in many cases, be impossible, as there is no means of calculating exactly the amount of that rent. Thus the carrying out of the single-tax program is confronted by serious practical difficulties.

**226. Desirable Reforms in the Present System of Land Ownership and Taxation.**—Disapproval of the single tax by no means implies complete satisfaction with the present land system. At several points that system calls for reform, and all the more urgently because in connection with land ownership and taxation to postpone changes is to render them more difficult of accomplishment. It will be possible in these pages merely to indicate in outline the reforms which, in the opinion of the author, would be especially desirable in the United States.

As regards the Federal Government, the changes in policy that are called for have in view the more careful conservation and more economical utilization of the public domain. Vast tracts should be set aside as forest reserves.

Other vast tracts, suitable only for cattle and sheep ranges, should be leased on terms that will insure their conservation and at the same time afford a revenue to the Government. Still other public lands, valuable for the mineral wealth which they contain, instead of, as at present, being sold for much less than their prospective, or even actual, value, should also be leased on terms sufficiently liberal to encourage the prospector and the mine investor, and yet calculated to secure for the public treasury a proper share of these stores of natural wealth, which up to the present time have served almost exclusively to swell the fortunes of private individuals. Finally, the policy embodied in the Homestead Act of practically giving a farm of 160 acres to every *bona fide* home-seeker who will cultivate it, should be amended to conform to present conditions. On the one hand, provision should be made by which the Government would receive a more adequate return for the superior tracts of agricultural land withdrawn from time to time from the Indian reservations and thrown open to settlement. On the other, Government lands benefited by the large irrigation projects that are carried through with public funds should be sold on terms that would enable the Government to get at least a partial return for its investment. Experiments should also be made with different forms of leasehold tenure even in connection with agricultural land, to test by actual experiment the truth of the proposition that no other form of control is as favorable to the best utilization of farm land as outright ownership on the part of the cultivator.

Next to the Federal Government the political units most interested in the land problem are the cities of the country. This is because, first, modern cities themselves require a constantly increasing proportion of the land within their limits for parks, schools, playgrounds and other public purposes; second, in cities the public interest demands a

larger degree of public control over the uses to which landowners may put their property than is necessary in the open country, and third, a principal source of city revenue is the tax on real estate. Each one of these reasons suggests a line of development which the future land policies of American cities should follow. Cities must become landowners on a greater and greater scale if the best interests of their citizens are to be cared for. Not only are the public purposes referred to, parks, schools, playgrounds, etc., expansive, calling for more and more space for their realization as higher standards are developed, but there are other purposes little less important that require the city to acquire land. Undesirable tenement-house properties must be condemned and clean and wholesome tenements substituted. Sometimes the best method of effecting this change is for the city to buy the land and itself control the new improvements to be erected upon it. What this may in time lead to is indicated by the situation in some German cities where a considerable proportion of the land within the city belongs to the municipality and is so well administered that no one is in favor of returning to the older system of larger private land ownership. The administration of few American cities is so efficient as to make development along this line immediately desirable, but no one familiar with what is going on in other countries can doubt that as efforts for municipal reform bear fruit in better government, the cities of the United States will also become landlords on a larger and larger scale.

The necessity for rigid control over the uses to which land in cities is put is obvious. Not only must uses which will be offensive to the neighborhood be prohibited and building materials that will not readily catch fire insisted upon, but the height and proportionate lot area of buildings must be prescribed, the location of factories regulated and, in general, the public interest protected at all points

where it would be sacrificed if free play were given to the selfish private interests of landowners.

The last line of development calls for an increase in the burden of municipal taxation that shall fall upon the land. As advocates of the single tax point out there are several reasons why a tax on the land within its limits is a peculiarly suitable source of revenue for a developing city. First, it is a tax which falls, where it is intended to fall, on the landowner, who can neither shift it nor evade it. Second, notwithstanding the fact that landowners must pay it, an old land tax after a time ceases to impose upon them a burden of which they are conscious. This is because it is the net rent, that is, the gross rent less taxes and other necessary deductions, that is considered when land is valued. When a piece of land changes hands the price paid makes full allowance for the taxes that are regularly imposed. The land is bought subject to taxation and the new owner thinks not of the gross rent but only of the net rent as the income to which he is fairly entitled. Third, the increase in the rents and prices which city lots command as compared with open fields, is due chiefly to the growth of the city and to improvements for which the city has paid. It therefore seems but just that a large part of the income received from city lots should go to the city treasury. On these grounds and others of a more technical character a gradual increase in the proportion of municipal taxation that falls on land, as distinguished from improvements and different forms of personal property, is much to be desired.

The above proposals do not exhaust the land question but they serve at least to indicate some of the ways in which the land policies of the Federal Government and of American cities may be modified so as to adapt the country's land system to the economic and political conditions of the twentieth century. As these conditions change further modifications will be desirable until at length the ideal

that land and natural resources, as gifts of nature to man, shall be used primarily for the advantage of the whole community, may be completely realized.

227. **The Meaning of Socialism.**—The last and most radical plan of economic reform is what we have designated as "socialism." As the term is here used, it refers to the proposal to reorganize industrial society by transferring to the state, or its agent, the government, control over land and the instruments of production, which we have called capital goods, and by confining private property to the things which minister directly to the gratification of wants, that is, consumers' goods. As owner of all land and capital the state would also be director of all industrial undertakings. All business managers and workmen would become government officials, employed in government enterprises and remunerated according to some plan prescribed by the government. Private initiative and competition in industry would be superseded by state initiative directed by the special departments of the Government entrusted with the management of industrial affairs.

Although agreeing on these main points, socialists differ widely as to the details of the industrial system which they propose and also as to the means by which it is to be realized. One group, which we may conveniently designate as "communists," advocates an equal *per capita* division of the products of industry, the latter being valued in proportion to the units of labor time involved in their production. Another group recognizes that the needs of different individuals differ as widely as do productive capacities and defines as its ideal "production by each according to his capacity and distribution to each according to his need." Still others content themselves with the optimistic prediction that under socialism there will be an abundance of goods of all kinds and that the problem of distribution will consequently offer no difficulties.

As regards means of realizing socialism, one group, which we may designate as the revolutionary socialists, looks forward to a general uprising on the part of the masses who will first obtain control of the Government, then confiscate all land and capital goods and finally inaugurate the system of state-directed industry. Another group condemns revolutionary measures and looks forward to a gradual transition to socialism through a step-by-step extension of the functions of government, to be defended at each stage not by any preconceived preference for socialism, but by the exigencies of each situation. Still another group looks for the new system as the result of a revolutionary, but entirely voluntary, change approved by all classes, because the competitive system will have become intolerable. These differences as regards both the ideal in view and the means to its attainment render difficult any general characterization or criticism of socialism as a plan of economic reform. In what follows we must content ourselves with reviewing some of the advantages claimed for socialism and some of the practical difficulties which oppose its introduction.

**228. Advantages Claimed for Socialism.**—The advantages claimed for socialism are both economic and moral. In contrast with the present system of production, which is wasteful and haphazard, it contemplates a system under which the economic needs of the community will be accurately estimated and the available land, labor and capital carefully apportioned, so that the quantity of each kind of good required will be produced. The duplication of plants and the excessive production of particular goods, now so common, will be avoided, the expenses of advertising and competitive selling will be saved and, finally, the production of goods that are harmful rather than beneficial to those who consume them will be suspended. As a consequence of these improvements on present practices there will be, it is claimed, an immense saving of productive

power, which may be utilized either to add largely to the volume of goods produced, to shorten the hours of labor or to combine both advantages to the benefit of mankind both in its consuming and in its producing capacity.

The moral advantages claimed for socialism are even more noteworthy. Instead of depending upon self-interest as a spur to industrial activity, socialism relies upon the love of activity for its own sake, the desire to contribute to the common good, the sense of duty in the performance of tasks that are largely voluntary and the ambition to win social esteem and social distinction through conspicuous social service. It is labor copartnership extended and systematized to embrace the whole industrial field and has the same moral advantages over competition as has conscious co-operation. Under socialism all men would live literally as brothers, sharing in the common toil and enjoying each his portion of the fruits of that toil.

**229. Objections to Socialism.**—It is unpleasant to contrast the socialistic dream as it is unfolded, for example, in such a work as Bellamy's *Looking Backward* with the hard facts of life and of human nature, but no less drastic a course can serve to present in their true light the obstacles in the way of the realization of socialism. Men as they are are fond of activity for its own sake, to be sure, but not usually of the sort of activity for which they are best fitted in their rôle as producers of wealth. If this motive were alone to be depended upon, not ten in a hundred would be likely to declare themselves in favor of useful forms of activity. The other ninety would content themselves with pure play, finding their gratification in it partly, it must be confessed, because it is entirely dissociated from any productive result. The desire to contribute to the common good would, doubtless, hold a larger number to the tasks best suited to their capacities, but the slight extent to which this desire is developed must impress anyone who observes the conduct of people toward forms

of public property, like parks and monuments. The horizon of the average man is still painfully limited and the sacrifices he is willing to make for the vague public beyond his family and immediate circle of friends is small, except in moments of excitement when his social consciousness is aroused out of its habitual lethargy. The sense of duty is also a motive that could not safely be relied upon to hold many men to the monotonous daily round which is necessary to efficient production in many, if not in most, departments of industry. Finally, the desire for social esteem and social distinction, which is certainly strong in the average man, is neutralized as a motive to industrial activity because in practice public opinion is very undiscriminating in its judgments. It rarely accords applause where and at the time applause is due, and it is very apt to reward with its approval quite unworthy candidates for its recognition. Some system of graded honors, like decorations or titles, might be devised, similar to those already in vogue to reward men for signal services on the field of battle, but that these would hold the rank and file of the industrial army to their tasks in the absence of other incentives will hardly be claimed by anyone. It is believed that these considerations admit of but one conclusion, namely, that the motives to industrial activity on which socialism relies are all too weak and that some form of compulsion would have to be called in to supplement them if the system was to be put into practical operation. But compulsion is tyranny, and whether practised by a selfish despot or by an enlightened majority seeking only the general good, must react disastrously on the characters of those concerned in it. Until socialism can be realized without it or without more of it than is now necessary to keep the enemies of society in order, its moral superiority over the present competitive system may well be questioned. At some future time, when men and women of a higher type compose society, socialism may prove prac-

ticable, but it does not seem to be adapted to men and women as they now are. And, it may be added, when human beings are so perfected that the motives on which socialism relies are dominant, it will make little difference what form of industrial organization is adopted. Competition among such individuals will be, as it now is at its best, merely a generous rivalry between upright and fair-minded men, tempered by regard for the interests of others and restrained by legal prescriptions. Such competition might result in industrial relations as ideally perfect as those pictured in connection with socialism, and if these relations do not now prevail it is not chiefly because of the industrial system under which we live, but because of the imperfections of the men and women who compose society.

Although less serious than the psychological obstacles to the realization of socialism, the administrative obstacles are sufficiently formidable. A few of them only will be referred to: Assuming a population disposed to give socialism a fair trial and the Government in control of all land and capital goods, a first difficulty would be in connection with the assignment of occupations to individual citizens. The interests of production would require a certain quota of workmen in each department of industry. But how, in the absence of compulsion, could these quotas be secured? Under the present system the division is accomplished by the simple operation of the law of demand and supply. Branches of production that are inadequately manned attract more workers by offering them somewhat higher wages than are paid in other occupations. What corresponding inducement could be offered under socialism? Is it not probable that in the absence of compulsion or of wages apportioned to the competitively determined value of the service rendered, certain employments would attract many more workmen than were needed while others would be avoided? One writer has suggested that the distribution of the available labor force could be

accomplished by shortening the hours of employment in unpopular occupations until they attracted their quota of workmen. This might prove a workable solution of the difficulty, but its practical operation would involve obviously a high order of administrative ability on the part of the directors of the nation's industries.

A second difficulty concerns the determination of the values of different economic goods. Since these are produced on government account quite independently of markets and the higgling of markets, such determination would have to be made through the application of some administrative rule. One rule proposed is that each good be valued in proportion to the labor time involved in its production. But how could such labor time be measured? What quality of labor should be selected as a standard? Should the product of a day's labor of a talented artist be valued the same as the products of the labor of a machine tender? If so, will there not be a continuing discrepancy between the demand for and the supply of the former? Shall no allowance be made for the part which land and capital goods play in production? The bare statement of these questions suggests the complexity of the problem which would confront the Government in connection with the mere valuation of the products of its farms and factories.

A third difficulty concerns the decision as to the quantities of different goods to be produced from year to year, and especially as to the proportions of the labor time of the community that should be devoted to the production of capital goods and of consumers' goods, respectively. Each community would have it in its power to neglect entirely the interests of the future by failing to replace or add to its stock of capital goods, or to provide abundantly for future requirements by devoting all the labor time not needed for the production of current necessities to the production of such goods. What principle could

guide government officials in deciding wisely on this all-important question? Would they not, as elected officers, be under a constant temptation to win popular favor by adding to the current supplies of goods at the expense of the fund of capital?

Finally, there would be the difficulty of deciding as to the relative merits of different methods of production. If progress were to continue, improvements on current methods would be constantly necessary. How much labor time should be diverted from the routine of production along old lines to industrial experiments? Who would determine when an experiment in a given direction should be abandoned as barren of result? Who would say when an old process and old machinery should be given up and a new process and new machinery substituted? In actual industrial society these questions are answered crudely, but effectively, through the impartial operation of competition. The best process usually wins in the long run because it pays best. Would the best process be as likely to be preferred under socialism?

Many other difficulties might be suggested, but enough has been said to indicate the puzzling problems that would confront the directors of a socialistic state. These problems may in some remote future be successfully solved, but it is safe to predict that socialism will not become a practical program of economic and social reform until the average citizen has developed a very different attitude towards public questions than he now displays nor until political machinery has been devised for securing and keeping in office public officials of much higher character and capacity than are commonly found among the elected officials of to-day.

**230. The Socialism of Karl Marx.**—In the foregoing sections the ideals of the group we have styled evolutionary socialists have been chiefly considered. The other group, which we have styled the revolutionary socialists, looks

upon the present industrial system as fundamentally unjust. A main tenet in their creed is that the whole product of industry is due to labor, and should therefore go to labor, and that what landlords and capitalists take as rent and interest is practically stolen. The most elaborate defense of this view is contained in the work of the German socialist, Karl Marx, entitled *Capital*, which undertakes to expose the iniquities of the present system and at the same time to show that it contains within itself the seeds of its own destruction. Although this type of socialism no longer dominates the movement to the extent that it once did, it is still sufficiently prominent to merit special consideration.

It is a fundamental error in analysis to ascribe the value of the products of industry to the labor involved in their production. Value, as already explained, is the joint result of utility and limitation of the supply. Under conditions of free competition value arises because of the cost involved in producing goods. This varies under different natural conditions and consequently rent appears. Under the least favorable natural conditions resorted to cost includes not only labor, but also the sacrifice involved in supplying the capital indispensable to efficient production. The value of the product must be great enough to remunerate workmen *and* capitalists, or the inducement which causes those at the margin of doubt between saving and spending to save will be removed and the fund of capital will be reduced. The payment of interest is as just and, economically, as necessary as the payment of wages. It is the premium industrial society offers to those who will furnish it with the capital it needs and it is never higher than is necessary to secure this capital. It is true that much of the needed capital would be furnished if there were no premium, but it is equally true that many workmen, and especially those whose work is of most value to society, would work for nothing rather than abandon their

chosen professions. In each case the reward is determined by the character and motives of the marginal men in the group affected. In each case, moreover, the necessity of rewarding these marginal men gives a value to the product sufficient to reward at the same rate all men in the group. The interest capitalists receive is in no sense subtracted from the reward that goes to labor. It comes from the extra product due to the assistance which capital goods render to production, just as the wages of labor come virtually from the products of labor. In neither case is there any exploitation of one factor by the other. If this analysis is accurate the whole contention of Marx and his followers falls to the ground, and the present industrial system is cleared at least of the charge of being based on the legalized robbery of the laboring by the propertied class.

**231. Conclusions in Regard to Socialism.**—Although based on an incorrect analysis of economic relations in its revolutionary form and looking forward to a future so remote as to have little direct bearing on present-day problems in its evolutionary form, socialism is much more than a mere “philosophy of the unsuccessful” or “vision of deluded dreamers.” As an ideal it appeals strongly to many men and women who are neither unsuccessful nor dreamers and it supplies them with an excellent standard by which to criticize the undoubted evils in the present economic situation. Such criticism is both helpful and harmful. So far as it serves to concentrate attention upon definite evils and to foster the belief that they are remediable, it is a valuable aid to constructive social reform. So far, however, as it tends to intensify class antagonisms and to teach wage-earners that they are the victims of legalized exploitation and that they must organize to despoil by force the owners of property who oppress them, it is a bar to true progress. It is reassuring that in the United States, as well as in European

countries where socialistic parties are strongest, less and less attention is being devoted in socialistic literature to "exploitation," "the class struggle," etc., and more and more to the real evils of the present day and the remedies that may be immediately applied to them.

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## CHAPTER XXIV

### ECONOMIC PROGRESS

232. **The Nature of Economic Progress.**—Economic progress is improvement in general well-being due either to increased command over economic goods or to reduced costs of production. It may show itself in increased earnings for the laboring masses, in shortened hours of labor or in an increased adaptation of work to the tastes and capacities of workmen. Definite as these criteria of progress appear to be, it is unfortunately true that there are no means of comparing them accurately from generation to generation. Until recently few records were kept of the commodities which families in different circumstances were in the habit of consuming. Even those which are now preserved will be puzzling in many of their details to future economists because the goods consumed will have changed in kind and quality as well as in quantity. The impossibility of making exact allowance for such changes opposes a permanent barrier to accurate comparisons between the standards of living of different periods. Similar difficulties are encountered in trying to gage changes in the sacrifices involved in production. If it can be shown that the length of the working day has been shortened, it may yet be claimed by the unbelieving that the intensity of labor has increased correspondingly, and there is no certain way of deciding whether or not this has been the case. Under these circumstances the economist must content himself with comparing those objective indications of well-being, such as the rates of wages earned by workmen of different grades, the length of the working day,

etc., which admit of measurement and appeal to the judgment of intelligent observers to determine whether these and other changes have really added to human welfare.

Even so simple a question as that whether average wages have increased or diminished can be answered only after elaborate statistical investigation. In recent years careful studies of wage statistics have been made in many different countries. It will be impossible even to summarize the results of these inquiries in these pages, but it may be asserted confidently that in the United Kingdom during the last one hundred years real wages have increased on the average not less than fifty per cent and that in the United States they have increased nearly, though apparently not quite, as much. As regards hours of labor the evidence of progress in both countries is equally conclusive. The reduction has not been less than two a day, that is, the work day in different employments has been shortened from an average of from ten to fourteen hours to an average of from eight to twelve hours. As regards command over commodities and leisure time in which to enjoy them wage-earners generally are, therefore, distinctly better off to-day than they were a century ago.

**233. Progress in Consumption and Production.**—Another method of gaging the extent and direction of economic progress is to review the changes that have occurred in the fields of consumption, production and distribution to determine whether they have been, on the whole, favorable. In Chapter II. we considered the contributions which changes in wants and habits of consumption may make to general well-being. Progress in this field depends upon increasing attention to the laws of variety, of harmony and of least social cost, upon greater economy in consumption and upon the substitution for narrow and selfish luxury of more social uses of wealth. No one can compare impartially these aspects of the life of to-day and of life in the past, from the point of view of the average wage-earning

family, without being impressed by the remarkable advance that has been made.

Even more obvious than progress in consumption is the progress that has been made in production. Invention and discovery have scored triumph after triumph since the first application of steam power to industry, and in every branch of business the productiveness of labor has been largely increased. Other causes contributing to this result have been the opening up to exploitation of new lands and new sources of mineral wealth, the growth of capital, improvements in forms of industrial organization and the development of more capable and intelligent men and women.

When the enormous multiplication of goods that has been made possible by these changes is considered, it may well seem surprising that the condition of wage-earners has not been improved even more than has been the case. To account for this fact we must consider the progress that has been made in the field of distribution.

**234. Progress in Distribution.**—Progress in distribution results from changes which increase the command over goods enjoyed by the masses. To measure it the earning-power of the bare-handed, unskilled workman of one period must be compared with that of the same workman of another, allowance being made for any change in the proportion which unskilled workmen bear to the whole population. The facts already cited indicate that wages have risen substantially, and yet the margin between the necessary expenses of the ordinary laboring family and its earnings is still painfully narrow, even in the United States, the country of high wages.

The reasons why the average workman still receives such a small return have already been suggested. In the first place, the increased productiveness of industry has been due in large measure to improvements in the capital goods which assist production. The immediate tendency

of such improvements is to add to the earning power of capital, rather than to that of labor. This has been neutralized by a remarkable growth in the amount of capital, and the rate of interest must have fallen to a very low level had not population also increased at a remarkable rate. The net result of these changes has been a lower rate of interest on an immensely larger capital fund and a somewhat higher rate of wages for a greatly increased laboring population. A second point concerns the trend of rent. The opening of new lands to exploitation must have raised materially the margin of cultivation and thus reduced the rent fund, had it not been paralleled by the remarkable growth in population just referred to. The older countries of Europe have poured out millions upon millions of colonists to the new lands, but without, except in the single case of Ireland, reducing their own populations in the process. In consequence, the raising of the margin of cultivation in European countries has been slight, while the rapid settlement of new countries has caused the better lands and natural resources there to command high rents. Thus the rent fund, like the interest fund, has increased enormously in the aggregate, notwithstanding the fact that the margin from which rents are calculated has risen somewhat. A last point concerns the deductions from the social income made because of the monopoly powers of certain entrepreneurs. There can be no question that a considerable share of the new wealth due to economic progress is enjoyed by those controlling the various forms of monopoly analyzed in earlier chapters. If these monopoly incomes could be diffused either by more general competition or by the legal regulation of prices, the earnings of workmen might be higher.

A superficial consideration of the above tendencies might lead to the conclusion that the growth of population was the chief cause of the persistence of the low earning power of workmen. Undoubtedly, had population in-

creased less while capital increased at the same rate and new lands and natural resources were opened on the same scale, the economic position of the average man would have been much improved, but we are not justified in assuming any such possibility. As a matter of fact, the high rate of interest, which has been a chief influence in encouraging and making possible the remarkable increase in capital, has itself been maintained in the face of such increase, at least in part, because of the parallel growth of population. The growth of population has been, also, a principal incentive to the discovery and exploitation of new lands and natural resources. It has thus stood in a causal relation both to the increase of capital and the settlement of new countries, and speculation as to whether a less rapid multiplication would have been on the whole advantageous to the average man, is idle.

Quite a different question is that as to whether such large deductions from the products of industry for the payment of competitive and monopoly profits, of rent and of interest are necessary or defensible. It is at this point that radical reformers take issue with conservative economists. In the last chapter we considered the most widely advocated plans for securing for the common benefit profits, rent and interest—labor copartnership, the single tax and socialism. We must now examine these shares in a more positive way, to determine in what relation their payment stands to the motives and forces that cause economic progress.

**235. Economic Justification of Profits.**—Generally speaking, competitive profits are fairly earned by those who receive them. They are the incentive which industrial society offers to entrepreneurs who will improve upon current methods of production. To secure them entrepreneurs compete actively to lower their expenses of production so that they may undersell one another, and the whole community is benefited by the resulting reduc-

tions in the costs of production. At times, however, competitive profits are obtained in ways that injure rather than benefit society. Unscrupulous employers may take advantage of the ignorance or necessities of their workmen to depress their wages below the level which permits them to maintain their industrial efficiency. Cheap commodities obtained by this means are all too dear if the best interests of producers and consumers alike be considered. Other entrepreneurs may undersell their competitors by adulterating their products. Still others may sell their goods for less than their production has actually cost, and by declaring themselves insolvent shift the resulting loss to their creditors. These and other forms of competition give rise to competitive profits for which industrial society receives no adequate return, and no effort should be spared to render them impossible.

Even more important as sources of large incomes to particular entrepreneurs are monopoly profits. These, too, are usually secured, at least at the outset, in consequence of improvements that have been made in the methods of production, but they must always be viewed with some suspicion, because they are likely to continue long after the improvements have been made and adequately paid for. If the monopolies which give rise to them are natural, that is, if they result from the fact that concentrated management and operation are economical, sufficient monopoly profit to induce entrepreneurs to organize such industries on a large scale must be left to them if the benefits of monopoly are to be enjoyed. The government may properly interfere, however, in ways that have been discussed in earlier chapters, to prevent excessive monopoly profits. If the monopolies are the result of legal privileges, control over their profits should be exercised as a matter of course by the government which grants such privileges. If they are due to obstacles to the free play of competition, or to unfair forms of competition, the

duty of the state to remove such obstacles and put a stop to such unfair practices is clear. Unless the government is zealous in the exercise of its control over monopolies, great inequalities in income are sure to result without any commensurate benefit to the whole community.

**236. Rent and Interest.**—The payment of rent and interest for the use of pieces of land and capital goods is a natural consequence of the institution of private property in the factors of production. That this institution has played an important part in stimulating economic progress in the past can hardly be questioned. It has served as a constant incentive to the industry and thrift without which no advance could have been made. The principal economic motive of the average man is to provide for the comfort and happiness of his family. To accomplish this object he is willing to work laboriously and to set aside a part of his surplus income as a provision for the time when he can work no more, or as a means to giving his children a better start in life than he has himself enjoyed. But a necessary condition to the accumulation of wealth for future use is that the law shall protect individuals in the ownership and control over their property. Where such protection is lacking little wealth will be accumulated, and of that little a large part will necessarily be expended in safeguarding what is left. On the other hand, the more certain the legal protection afforded to property-owners the larger will their accumulations become and the more ample will be society's resulting equipment of capital goods.

The payment of rent and interest has been explained as a transfer to property-owners of the shares of wealth which have been produced through the use of their property. Although conceding the accuracy of this explanation, critics may nevertheless object to the payment of rent to private landowners as unfair and unnecessary because the qualities in the land for which it is paid are

either natural or due to social changes for which land-owners deserve no credit. The economist's reply to this contention is that, while rent does frequently, if not usually, arise from these causes, it is still true that private property in land is the surest means of encouraging the best use of land. To the extent that rents may be diverted to the service of the whole community, without gross injustice to present landowners and without interference with the best uses of land, this reply loses its force and such diversion should be effected by means of taxes. As pointed out in the last chapter (Section 226), the time seems already ripe for this change as regards urban rents, but the new policy must in fairness to city landowners be introduced by gradual steps.

The payment of interest is the incentive which industrial society offers to those who will save and invest their incomes, just as wages are the premiums offered to those who will work. So long as men continue to be dominated by the motives which now control them, the one is as defensible, economically, as the other. It is not so much the payment of interest that gives rise to dissatisfaction with the institution of private property, as the unequal distribution of wealth that accompanies it.

**237. Inheritance Taxes as Means of Lessening Inequalities in Wealth.**—An unequal distribution of wealth must result from the institution of private property so long as individuals and families differ greatly in earning capacity and in prudence and forethought. Where these inequalities are found some individuals and families will enjoy large incomes, and out of these incomes will set aside for investment large savings, while others will accumulate little or nothing. In some families wealth and the qualities necessary to its preservation will become hereditary, and great fortunes will be passed on from parents to children through several generations. More frequently, if we may judge from the experience of the United States

up to the present time, the wealth accumulated in one generation will be gradually dissipated, either through division among numerous heirs or because those who inherit it lack either the capacity or inclination to keep it unimpaired.

Undesirable as are inequalities in wealth, direct attempts to limit wealth accumulation would, in the author's opinion, be productive of more harm than good. A large and growing fund of capital is indispensable to the maintenance of efficient methods of production and no measures should be adopted that are likely to weaken seriously the motives to saving and investment. The reasons for putting no check on an individual's right to accumulate wealth do not apply, however, to his right to transmit it at death to his heirs. Even though hereditary fortunes may be dissipated after a few generations, it is nevertheless true that much of the wealth in existence at any one time has been inherited by those who own it. Limitations on inheritances by means of inheritance taxes are, therefore, effective means of lessening inequalities in wealth among the individuals in each oncoming generation.

Of all forms of taxation, inheritance taxes are believed to be the least objectionable. They are easily assessed and collected. They cannot be shifted, but must be paid out of the inheritances on which they are intended to fall. Finally, they impose a minimum burden upon tax-payers, since after they are established they soon come to be thought of as reasonable charges imposed by the state for its services in protecting property and seeing that it passes into the possession of the legal heirs. For these reasons, as well as because they tend to lessen inequalities in wealth, large use should, in the opinion of the author, be made of these taxes as sources of revenue. The experience of other countries indicates that the best results are secured when inheritance taxes are made progressive. Small inheritances should be exempt from the

tax. On larger inheritances the rate of taxation should increase by gradual steps until on large fortunes it becomes a substantial deduction, one-fifth or even one-quarter, from the inheritance. If the large revenues that may be derived from this source are used to advance the interests of the poor and thus to lessen inequalities in fortune at the other extreme, steady progress may be made toward a more democratic distribution of wealth and welfare.

**238. Progress in the Future.**—The review of the circumstances which have contributed to the economic progress of the past that has been given indicates the conditions upon which the economic progress of the future must depend. Changes in wants and in habits of consumption calculated to increase the gratifications which men derive from goods and to lessen the costs involved in their production, must continue to be made; methods of production must be further perfected by improvements in the capital goods used, by a fuller utilization of the forces of nature, by an increase in the fund of capital, by a better organization of industry and by a steady improvement in the efficiency of the working population; the distribution of the social income must be modified so that the command over economic goods enjoyed by the rank and file in the industrial army will be ever larger.

Some of the reforms that will assist toward these ends may profitably be recalled. Isolated workmen often fail to secure the earnings to which they are economically entitled because they do not bargain on terms of equality with their employers. Trade unions are the agencies that must be relied upon to correct these inequalities. So long as they do not try to become close monopolistic associations, but confine their activities to securing the best terms possible for their freely admitted members, they merit all the encouragement and assistance that can be given them. Notwithstanding conspicuous exceptions, their general

tendency is toward improving the condition of wage-earners and rendering more harmonious and cordial the relations between them and their employers.

For wage-earners among whom trade unions can be organized, state interference to prevent the making of socially disadvantageous labor contracts may not be necessary. In the case of great industrial classes, however, nothing but an aggressive policy of interference to establish the plane of competition can serve to protect workmen from unduly long hours under unsanitary conditions. The codes of labor law already adopted must be extended and perfected, and in time may have to embrace even prescriptions in regard to the minimum rates of pay that will be tolerated in certain employments. Side by side with this policy of regulation must be developed agencies for caring adequately for the unemployable and for protecting from their deadly competition the individuals and families that are capable, under proper conditions, of independent self-support.

In certain industries free competition has proved itself incapable of regulating economic relations as the general interest requires. Some industries are monopolies by their very nature, others have become monopolies because of defects in the legal system. In relation to such industries the function of the state is clear. Natural monopolies should be controlled as regards the charges they are allowed to make for the services they render, and sometimes as regards also the quality of these services. When this control can only be exercised effectively through the expedient of government ownership and operation, the latter should be fearlessly undertaken. Only by such means can the interests of the public be safeguarded and injustice prevented. Monopolies that have arisen because of defective laws or public policies should be attacked through such laws. It is the duty of the state, so long as it continues to permit free competition, to enforce fair competition, and appro-

priate measures to this end must be devised and put into execution.

The same reasons that make factory regulations necessary to the health and safety of factory employees make necessary the effective regulation of housing conditions in great cities. The ignorant and careless who submit to insanitary workrooms will submit as readily to insanitary homes unless the state or city interferes to enforce minimum standards of cleanliness and decency.

Even more important than increased attention to public health is increased attention to public education. For reasons that have been given, parents cannot be depended upon to demand as high standards of education for their children as it is to the general interest that children should enjoy. The state must interfere to provide adequate schools and to compel attendance at such schools, or others of similar grade, and its expenditures for this purpose, so long as they are calculated to improve the educational advantages offered, can hardly err on the side of excess. In the United States the greatest need at the present time is for trade and technical schools to supplement the general training of the public schools and equally free to all classes.

Space has not permitted consideration of the subject of taxation, but reasons have been given for the belief that the protective tariff of the United States has outlived its usefulness and the increased taxation of land in cities and of inheritances has been advocated. Reform in the methods of taxation is all the more important because the economic progress of the future is certain to involve a large increase in public expenditures. Public revenues must be secured through taxes which fall as little as possible on the poor, if the benefits derived from public expenditures are not to be largely offset by the curtailed incomes of those whose earnings are already all too small.

The above are some of the reforms which the author

would urge as substitutes for the more radical changes proposed by advocates of land nationalization and socialism. They belong distinctly to the present and the immediate future and need not be deferred to a future so remote that present discussion of them is of doubtful value. If economic progress is to follow from these changes, they must result in steady improvement in the standards of living and of efficiency of the wage-earners in each community. For, at last analysis, every effort to improve conditions which is not registered in the character and capacity of the average individual must prove futile. Unless he responds to the enlarged opportunities that are presented to him, there is no hope of permanent betterment. That he will respond, and that rising standards of living will exercise the needed control over the growth of population, so that improvement in the quality of life will be as conspicuous a characteristic of the future as has been growth in wealth and numbers of the recent past, are beliefs shared by the majority of economists.

**239. Probable Course of Wages, Interest and Rent in the Future.**—The trend of wage and interest rates and of rent in future years cannot safely be predicted from their trend in the past. All that can be said is that if present tendencies continue to operate, certain results will follow. If the progress in production that may be confidently predicted continues to be accompanied by a gradual rise in the standards of living of the working classes, there must be a steady increase in wages. One effect of such an increase will be a larger and larger accumulation of capital on the part of wage-earners themselves and this, added to the capital accumulated by other classes, will have a tendency to reduce the rate of interest. There is little reason, however, for expecting anything more than a very gradual fall in interest, or that the rate will be lowered to nothing within many decades or even centuries. Opposed to such a result are the discoveries of ever new uses for capital goods that

are certain to be made, and the lessened rate of accumulation on the part of capitalists that may be expected as their incomes from capital, in consequence of the decline in interest itself, become smaller and smaller. The future course of rent will depend upon the relation between the growth of population and the progress that is made in utilizing to better advantage the world's natural resources. The aggregate rent fund is certain to increase as it has in the past, as the area of the earth's surface turned to economic account increases. This may not, however, involve any lowering in the margin of cultivation any more than has the progress of the last one hundred years.

To predict whether the above changes, which may be said to be in progress at the present time, will continue uninterruptedly is beyond the power of economic science. As in the past, so in the future, new conditions and new forces are likely to present themselves, which will cause the anticipations of present-day economists to seem as baseless as many of those of the economists of the past have already been proven to have been.

**240. Economic Progress and the Moral Elevation of the Race.**—The impression almost necessarily left upon the mind by a treatise on economics is of a somewhat hard and material view of life. In concentrating attention upon goods and the gratifications which result from them, the economist seems to ignore religion, the family affections and other things that are really more important. Excuses that may be urged in his behalf readily suggest themselves. He may not justly be accused of ignoring religion and the family affections because he has little to say of them. Like other specialists, he must confine himself rigidly to his particular subject if he is to contribute anything of value to the sum of human knowledge. But the charge is not so easily answered. Economists profess to concern themselves with the conditions upon which human well-being depends. They talk of gratifications, of pleas-

ures and pains, of progress. Can they have anything *final* to say on these subjects when they pass over the very experiences which, in the opinion of so many persons, make life most worth living? It must freely be confessed that they cannot. Basing their conclusions on a study of the economic side of life, they can claim finality for them only as respects economic relations. The gratifications they discuss are gratifications connected with goods or with the activities necessary to the production of goods. Whether an increase in these gratifications really contributes to the moral elevation of the race is a problem that can be decided only by reference to broader considerations than fall properly within the field of economics. An economist may, nevertheless, be pardoned a closing word touching this vital matter.

Economic progress is something more than a progressive advance towards a state of society in which all individuals will be abundantly supplied with goods. It includes in its view activities as well as the gratifications connected with consumption. Economically speaking, it is quite as important to get rid of the pains of production as to add to the pleasures of consumption. The economist's ideal is thus a world in which wants and the activities of production are so harmoniously adjusted to each other that the field of industry offers full scope to all for the exercise of those faculties and capacities from which they get the greatest benefit and happiness, at the same time that it rewards all with the goods which they most require. Up to the present time progress has been mainly in the direction of adding to goods. It is necessary to raise consumption to a certain standard before it can be appreciated that additional comforts and luxuries are dearly bought at the price of uncongenial toil, and before due attention can be attracted to the other line of development. When this standard is reached, however, the choice of occupations will begin to be made with greater reference

to the tastes of individuals as producers, and with less regard to their need for goods as consumers. Progress from this point forward will be toward more and more congenial work for all rather than toward a further multiplication of goods. If contemporary economic discussions seem to over-emphasize the importance of goods or wealth and to give too little heed to worthy and ennobling activities, it is not because this is an essential characteristic of economics, but because it is still true that the mass of men are all too poorly supplied with goods, and that for them the problem of most pressing concern is how this deficiency may be relieved. For the middle and upper classes in the economic scale deficiency of goods has already ceased to be a ground for anxiety. The real economic evil for them is deficiency in congenial pursuits, and the economist may unite with the moralist in urging, in their case, less concern about material comforts and more concern about the way in which the working life is to be spent.

Economic progress is by no means the end of life, but, conceived in a broad way, it is fundamental to all progress. A certain control over material goods is essential to appreciation of all higher goods. Given control over the necessities and comforts indispensable to well-rounded existence, the next step is to find work which will afford scope for one's highest faculties. This quest, which is purely economic, affords opportunity for the best and highest development of which human beings are capable. For persons with artistic imagination and the creative faculty it will mean the choice of artistic professions or crafts; for those with scientific curiosity and the love of study it will mean the selection of scientific pursuits; finally, for the great mass of men, who are now, and probably will continue to be, neither artists nor scientists by nature, it will mean the choice of those occupations which will enable them to minister most largely to the wants of others and in this way to gratify most fully their social aspirations.

For, if men are now self-seeking in a narrow sense, it is because the hard struggle for existence to which they have owed their development in the past has made them so. As goods become more plentiful, the larger social self, which already directs the lives of so many so-called unselfish persons, will become dominant. Its gratification will demand a constant ministering to the wants of others, just as the gratification of the narrower self of the average man now demands constant attention to personal wants and the wants of the family. Thus, if the study of economics seems to involve a hard and material view of life, it is because we still live in a hard and material age. The economist's ideal is not only not inconsistent with the moral elevation of the race, but it includes that elevation as one of its necessary elements. It is his confident expectation that men will grow better as the conditions of their economic life become pleasanter and his belief that they can grow better in no other way is what gives its chief interest to his subject.



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